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Dissertation title;

The development of a dementia communication intervention for undergraduate nurses based on the VERA framework

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Word Count: 49,905
17/08/2020

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Abstract

Title: A dementia communication intervention for undergraduate nursing students based on the VERA framework.

Background: Patients with dementia experience emotional distress due to difficulties communicating physical and social needs. This is compounded by inadequate dementia communication skills among qualified nurses and student nurses.

Aim: The project aims were to adapt a dementia communication training intervention, examine acceptability among undergraduate nursing students and test the feasibility of designing a randomized controlled trial (RCT) to evaluate the intervention.

Methods: The intervention involved a 1.5-hour dementia communication workshop based on the VERA framework and used information giving, role play, discussion and student manual.

Study Design: A quasi-experimental pre-post control trial was used with mixed-methods data collection (student survey, semi-structured interview and non-participatory observations of students in clinical practice).

Results: In total, 49 students completed the post intervention survey (i=26, c=23). There was a significant increase in awareness of person-centred response scores in the intervention group 13.1 (SD1.95), compared to the control group 10.6 (SD3.0), p=0.03, there was no other significant differences. Eleven students were observed interacting with patients with dementia (n=219 interactions). There was no significant difference between the groups with missed opportunity for positive interactions observed in both groups. Qualitative interviews with students (n=8) that received the intervention indicated they valued the training but inconsistently used the dementia communication skills in practice. Barriers to implementing the new skills were a lack of role modelling from qualified staff, busy environment and little emphasis on person-centred interactions in clinical practice.

Conclusion: The VERA dementia communication intervention was well received by students and may increase their ability to identify person-centred responses, but this may not change

communication behaviour. This feasibility study, suggest that a RCT may not be possible and other pragmatic trail designs should be used to evaluate this education intervention.

Chapter 1

1.1 Introduction

In this chapter I will outline a definition of dementia and review current epidemiological data and the interface with acute care. I will examine the literature on the experiences of people living with dementia in acute care and the role of nursing in meeting the needs of this population. Finally, I will examine the needs of health care staff including student nurses in relation to providing care to people with dementia in acute care.

1.2 Dementia

Dementia is defined by the World Health Organisation (WHO) as '*a syndrome in which there is deterioration in memory, thinking, behaviour and the ability to perform everyday activities'* (WHO 2017). Dementia is not a normal part of aging (National Dementia Strategy 2014) and its causes are not yet fully understood. There are structural and chemical changes that occur in the brain causing loss of neuronic volume (Dening and Sandiyan 2015). This decline in cognitive function means people with dementia have complex needs which can be compounded by acute illness and hospitalisation (Kilgore 2015).

As dementia progresses, one of the greatest challenges experienced by people living with the condition is diminished verbal and non-verbal communication capability, including reduced ability to receive, process and relay information, leading to patient frustration or 'responsive' behaviour (Nazarko 2014). Communicative difficulties such as dysphagia, aphasia and anomia are associated with dementia progression and it is not uncommon for patients to lose the complete ability to speak towards the end-stage of dementia (Banovic et al 2018, Currie 2018, Payne and Morley 2018). This highlights the need for specialist dementia communication training for all healthcare professionals to help compensate for the person's reduced ability (Balzer et al 2016).

1.2.1 Epidemiology

According to the Alzheimer's Society (2018) 7.7 million people globally will develop dementia each year and there is no known cure. To put this figure into perspective there is a dementia diagnosis worldwide every 3.2 seconds (World Alzheimer's report 2015). Global advancements in medicine have contributed to an increase in life expectancy (Chen et al. 2018) but as the risk of dementia increases with age, this contributes to a greater number of people living with dementia and in turn, requires the development of international healthcare infrastructure to meet the demand of this growing population (Wancata et al., 2015).

1.3 Prevalence of dementia in acute care

In Ireland over 41,000 people are diagnosed with dementia and one in every four will require acute hospitalisation at least once per year (HSE 2015). In total it is estimated that between 29% and 42% of patients admitted to the acute setting have a diagnosis of dementia (Timmons 2016, National Dementia Strategy 2014). To gain greater insight into the quality of care received by these patients in our acute care hospitals, *'Irelands National Audit of Dementia'* (INAD 2014) was undertaken in 35 acute public care hospitals. Nationally it was the first of its kind and provided a comprehensive report on acute dementia care and informed the subsequent development of the *Irish National Dementia Strategy (INDS 2014).* The INAD (2014) made important multilevel recommendations to improve organisation and ward leadership, provide more appropriate dementia-friendly environment, and improve diagnosis and care pathways for people with dementia. All of these recommendations were predicated on developing a workforce with dementia awareness, and appropriate knowledge and skill. Dementia is rarely the primary reason for acute-admission, but it is a tangible factor that adds to the complexity of patient management and discharge planning (Torian et al 2005). In Ireland, nearly 50% of patients with a dementia diagnosis do not have their diagnosis

documented during their admission or stay (HSE 2015), therefore a 29% prevalence is likely to be an underestimate of patients with dementia amongst hospitalised patients.

1.3.1 Economic impact of dementia

The magnitude of patients with dementia using acute services has a significant economic impact. Patients with dementia have higher care-cost than any other patient groups, costing the state an average of 1.69 billion per annum (Connolly et al., 2012, Timmons et al., 2016). This figure does not account for informal family carers who are valued at an additional 807 million per annum (INDS 2014).

The INAD (2014) identified that people with dementia experience longer in-patient admissions (5-7 days) than any other patient groups (Alzheimer's Society 2010, INAD 2014). Delayed discharge amounted to 246,908 excessive inpatient days in 2013, costing the HSE just under 200 million (Timmons et al., 2016).

1.3.2 Impact of acute care hospitalisation on people living with dementia

There are many adverse effects of hospitalisation on patients with dementia other than that specific to disease or illness (Featherstone 2019). Prolonged hospital stay increases associated mortality risks (INAD 2014). People with dementia in acute-care services have on average of at least three co-morbidities at baseline (Timmons 2016) therefore this patient group are much more likely to suffer from adverse events such as malnutrition, delirium, incontinence, hospital-acquired infection, pressure sores and decreased mobility (George et al 2013).

People with dementia in acute hospital settings can experience care that causes stress, distress, and accelerated physical and cognitive decline (George et al 2013). This can be a result of institutionalised ward culture and issues such as understaffing that reduces the capacity of healthcare staff to deliver individualised and person-centred care (Clisett et al.,

2013, Featherstone et al, 2019) and the complexity of the system for those with dementia (Stephan et al., 2018).

High-quality dementia care is time-consuming and identification of communication needs can take longer than other patient groups (Clisett et al., 2013). A lack of dementia education can result in staff who presume all patients with dementia need assistance with ADL's contributing to 'inappropriate clinical procedures' (Featherstone et al., 2019, George et al., 2013). This can result in increased staff workload, staff frustration and can jeopardies patient dignity and independence (Featherstone et al., 2019). Lack of staff dementia knowledge and skill can cause poor integration of patients with dementia into systematic ward routines resulting in resistance to care and unmet needs (Clisett et al., 2013, Featherstone et al., 2019). It is evident from the literature that poor dementia care can also adversely affect staff, there are correlations between staff well-being, safe staffing levels and better patient outcomes (Atiken et al 2011, Lawless et al., 2019). Acute care hospitals are currently experiencing high levels of staff burnout, pressure to discharge, understaffing leading to high patient: nurse ratio's that compound the challenges of delivering person-centred care (Atiken et al. 2011, Brewer et al 2018, Digby et al 2017, Hall et al 2016). This is likely to have a disproportionate impact on patients with dementia who are more vulnerable to care deficits and are at a higher risk of deterioration compared to cognitively intact counterparts (Fogg et al., 2017).

1.3.3 National and international dementia care pathways in acute care

The low level of dementia appropriate care pathways and management plans in the Irish acute healthcare system mirror international experience with similar results shown in the NHS National Dementia Audit (2011). In England, there was the NHS *'Prime Ministers Challenge on Dementia 2020*' in 2015 which aimed to revolutionize the UK's dementia care and research by 2020.

Acute dementia care is multifaceted and it is acknowledged as a highly specialised area that requires specific training (Balzer et al 2016, Naughton et al 2018). Despite the growing

prevalence of people with dementia, the INAD (2014) reported 94% of hospitals had no dementia care pathway in place and 68% did not have a policy for challenging or reactive behaviour. The INDS (2014) consequently aimed to increase dementia awareness, knowledge, and appropriate services in order to ensure early diagnosis and intervention including improvements in dementia care within the acute sector.

Patient discharge pathways and prolonged hospital stays for patients with dementia is an international problem (INAD 2009, INAD 2013). In 2013 the NHS launched 'My Discharge' targeting all patients with dementia in acute services ensuring in-patient durations are no longer than absolutely necessary. The HSE launched the '*National Older Person's Programme'* and the '*National Patient Flow Strategy'* (2017) which also aims to ensure structured patient-pathways through acute care services and timely patient discharge. While discipline-specific sub-programmes have been developed within the HSE such as stroke, spinal injury and theatre quality improvement pathways, there has been no dementia-specific program proposed. A national integrated care programme for older persons was launched in 2017 and although dementia is predominantly effects older adult population, there was no dementia-specific care pathway developed as part of the programme.

1.4 Dementia communication and patient outcomes

Communication is acknowledged as a key barrier to care for patients with dementia, particularly in the acute-care setting (Timmons et al 2016). Difficulty in communicating unmet physical and emotional needs to staff can lead to frustration and distressed or responsive behaviour (formerly labelled challenging behaviour). Distressed behaviour is often a result of inability to communicate effectively with others (Young 2012). Poor communication can lead to further secondary complications such as acute deterioration and clinical cascade iatrogenesis which is the development of further complications created by a primary adverse event (Baker 2017, Thornlow, et al 2009). Dementia communication

skills to effectively engage with a person with dementia and de-escalate distressed behaviour are not intuitive and health and social-care staff require specific dementia communication education and training (Bridges 2011). This is particularly important in acute care where the unfamiliar and busy environment contributes to patient stress which can be offset by skilled nursing care and good communication to provide a positive social environment (Dyer et al., 2017, Stanyon et al., 2016).

1.5 Dementia education and training

Multidisciplinary dementia education and training levels are of 'international concern' (Surr and Gates 2017) with low numbers of healthcare workers with dementia education (Duffen et al., 2012). In Ireland, dementia education is recommended by the Nurse and Midwifery Board Ireland (NMBI) *'Working with Older People'* guidelines (2015) for all health care staff likely to come into contact with people living with dementia (NMBI 2015, NDSI 2014). Providing education and skills training are seen as important not just for patient care but also for older adult nursing recruitment and retention (Chenoweth et al., 2009) yet, only 52% of Irish nurses were provided with specialised training (INAD 2014).

Gerontological nursing including care for people with dementia is widely recognised as a distinct speciality and nurses choose to work in this field out of a sense of altruism, selflessness, and for the intrinsic satisfaction of doing good (Chenoweth et al., 2009). However, the majority of older adults with dementia are not cared for in specific older adult units where staff have had specialist dementia training (INAD 2014) and those that have received specific dementia training often rely on a list of 'do's and don'ts' broad principles of communication rather than theory-driven communication models. Currently there is no standardised approach to dementia communication education (Mitty and Flores, 2007, Surr et al., 2017)

Lack of dementia education means acute care staff often do not have the necessary skills to work therapeutically with dementia patients who refuse or communicate resistance to care (Featherstone et al., 2019). The INDS (2014) stated that staff working in the acute healthcare sector tend to focus on the tasks associated with the reason for admission or technical care and can ignore more psycho-social aspects of care. Due to this, specialist patient-centred care-needs can be 'overlooked' including patient dignity (Clissett et al., 2013, Tadd 2011). Internationally the provision of dementia education has increased over the last number of years and there is a heightened awareness, but overall dementia communication skill development remains scarce and the majority of the healthcare workforce lacks specific dementia communication education (INAD 2014, Surr et al., 2017).

1.6 Deficits in undergraduate curricula

Lack of dementia education is not limited to the qualified healthcare workforce, the origin of this problem begins in the undergraduate curriculum of all health care professionals in that there are no standardised dementia curricula content or dementia communication skills (Naughton et al., 2018). Deficits in education and preparation of all health care professionals including nurses, to work with people with dementia are widely reported in the literature (Balzer et al., 2016, Naughton et al., 2018 and Woods et al., 2018). Student nurses reported feeling fear, anxiety and a lack of 'preparedness' for care on the older adult placement and therefore found working with this particular group 'challenging' (Alushi et al., 2015, Balzer et al., 2016, Naughton et al., 2018, Scerri and Scerri 2013).

In response to this, NHS (2014) introduced '*Ten Standards of Dementia Care'* for all healthcare staff. Each standard has three levels of education from foundation to expert level. Specific dementia communication education is one of the core standards and is acknowledged as an essential specialist area of dementia care amongst undergraduate and qualified healthcare staff (NHS 2014). There are no equivalent standards in Ireland, NMBI in their

recent revision for undergraduate curriculum has mandated older adult content, but dementia communication is not explicit (NMBI, 2019). The updated NMBI '*Working with Older People'* guidelines (2015) acknowledges dementia education in local policy but no national framework was developed.

Literature reviews conducted by Alushi et al. (2015) and Surr et al. (2017) included 161 papers and highlighted the current gap in dementia education amongst student nurses and healthcare staff. Numerous clinical trials of communication interventions have been undertaken but sample size tended to be small and there was a lack of randomised control trials. Most of the clinical trials were pre-post design and the training interventions were often not underpinned by education or communication theory (Alushi et al., 2015). In chapter two, I have updated the literature review by Alushi et al. (2015) to identify new developments in dementia education for undergraduate healthcare professionals.

To improve outcomes for patients with dementia requiring acute care admission, there is a need to improve dementia education in the current and future healthcare workforce. Introducing these skills early into undergraduate curricula needs to become standardised across all programmes (Balzer et al., 2016, Woods et al., 2016, Naughton et al., 2016).

A theory-driven dementia care and dementia communication model should be introduced to Irish undergraduate curricula to develop or adopt an effective dementia intervention to an Irish cohort. Whilst specialist student placement on older-adult clinical setting is mandatory, specialist training in preparation for these areas need to become a minimal requirement for undergraduate students (Surr et al., 2017).

Despite the challenges of the current economic climate and associated healthcare problems, undergraduate placement remains a super-numeracy component whereby undergraduate nurses learn from exposure and environmental emersion (Alushi et al., 2015, Surr et al., 2017). According to Surr et al. (2017) the most effective interventions were those which

included both format academic teaching hours and immersion in the hospital environment. In Ireland undergraduate nursing students complete a mandatory older adult student placement, therefore we need to view the academic gap within dementia communication education as a development opportunity to achieve an optimal, academically enforced, innovative dementia graduate workforce.

Chapter 2

2.1 Introduction

In the previous chapter, I examined the communication challenges for patients, staff, and students and highlighted the need for evidence-based dementia communication training. In this chapter, I have described a systematic search of the literature to examine the range and types of dementia communication interventions targeting undergraduate and pre-registration health care professional students. This updates the literature review by Alushi et al. (2015) and was undertaken to inform the development and feasibility testing of a dementia communication intervention amongst undergraduate nursing students.

2.2 Background

A preliminary search of the literature was conducted to identify the available evidence and from this, two relevant systematic reviews were identified (Alushi et al., 2015 and Surr et al., 2017). Alushi et al. (2015) completed a systematic review of dementia education programmes for pre-registration healthcare students. The review identified nine studies published between January 2007 and March 2014. Five of the nine studies involved student nurses, three studies were for medical students and one study was conducted with audiology and speech and language students. Study designs included mixed method (n=4), qualitative (n=3) and, quantitative (n=2). Alushi et al. (2015) did not use a quality appraisal tool but mentioned the limitations of individual studies in their data extraction tables.

The range of interventions in the review included immersion in practice (n=3), stand-alone formal classroom teaching, (n=2), traditional lectures with practice-based experience (n=2), simulation-based learning (n=1) and research-based drama (n=1) (Alushi et al., 2015). The most frequently evaluated outcomes were student attitudes and student knowledge of dementia (George et al., 2011, 2013, Jefferson et al., 2012, Paquette et al., 2010 and Kaff et al., 2011). All studies that measured knowledge (George et al., 2014, Jefferson et al., 2012

and Paquette et al., 2010) and attitudes (George et al., 2011, Jefferson et al., 2012, Kaf et al., 2011) showed a positive increase.

The intensity of the interventions varied greatly. Taught sessions lasted between two and three hours and the duration of clinical experienced varied from eight hours to three weeks of placement. The need for validated tools was evident as quantitative tools were rarely validated in this review and there was no attempt to examine the impact of additional dementia training on the interactions between students and patients living with dementia.

Surr et al., (2017) conducted a similar review of the literature and focused on 'What works in delivering dementia education or training to Hospital staff'. Surr et al., (2017) identified twenty papers which included quantitative (n=8), mixed methods (n=8), and qualitative (n=4) designs with sample sizes ranging from 6-548 participants. The methodological quality was low (n=7), medium (n=10) and high (n=3) based on the Critical Appraisal Skills Programme (CASP) developed by Caldwell et al., (2015) and due to the small number of studies meeting inclusion criteria, no low-quality studies were excluded (Surr et al., 2017).

The training interventions were assessed based on Kirkpatrick's four level training evaluation model (2006, 1984) which examines reaction, learning, behaviour and results. Reaction assesses the acceptability of the intervention by the students, paying particular attention to the quality and relevance of content. Learning explores the quality of skills or techniques attained in direct response to the learning, normally examined using an instrument such as a questionnaire or survey. The behaviour level explores how the content can be applied to practice and the results level examines the impact an intervention has on an organisation.

Surr et al., (2017) identified classroom teaching as the most common form of intervention (n=11). Other interventions included a combination of classroom learning and a decision

support tool (n=1), workplace learning (n=1), practice placement/visit (n=2), DVD plus group discussion (n=1), a learning set (n=1), filmed ethno-drama with group discussion (n=1) and e-learning plus educational support (n=1).

Only three of the twenty studies reported outcomes (15%). Of these three studies, two were of low quality and one of moderate quality. Classroom-based learning featured in all three of the studies. The Surr et al. (2017) review showed that the majority of interventions were proposed to be multi-disciplinary but were primarily delivered to nursing staff (>50%). Overall the interventions varied greatly and both reviews concluded that there was a need for high-quality research to inform the design and delivery of dementia communication training for staff and students (Alushi et al., 2015, Surr et al., 2017). None of the studies reported on patient outcomes and there was a lack of validated tools to compare outcomes between studies.

2.3 Aims

This literature review updates the review by Aushi et al. (2015) and was undertaken to inform a pilot study testing a dementia communication strategy amongst undergraduate students in an Irish acute care setting. This literature review aimed was to identify innovations in dementia communication interventions targeting undergraduate or pre-registration healthcare students. The specific objectives were to (a) identify the components of the interventions, (b) identify the evaluation strategies and outcome measures, (c) appraise the quality of the evidence, and (d) identify the impact of the interventions on the stated outcomes.

2.4 Search strategy.

For our search strategy we used databases Pubmed, Cinahl, PsychInfo, and the Cochrane library. A grey literature search was also conducted on google scholar and the first twenty pages were screened by title to identify relative material (Godin et al., 2015). This search strategy used keywords from the Alushi et al. (2015) literature review and additional search terms were identified from the preliminary search of the literature (Table 2.1).

Inclusion and exclusion criteria were developed to maintain the focus of the search on educational interventions for dementia communication aimed at undergraduate healthcare professional students.

Study inclusion criteria included;

- Healthcare professional students had to be a major focus with specific data on student and or patient outcomes.
- clearly described dementia communication intervention.
- Quantitative evaluation of outcomes with or without qualitative evaluation.
- Published in English language.
- Full study report available.
- Publications between 2009-2019.

Exclusion criteria included;

- Protocols only (authors were contacted for all relevant protocols to ensure literature had not since been published).
- Interventions that were not specific to undergraduate healthcare students.
- Interventions without quantifiable outcomes.

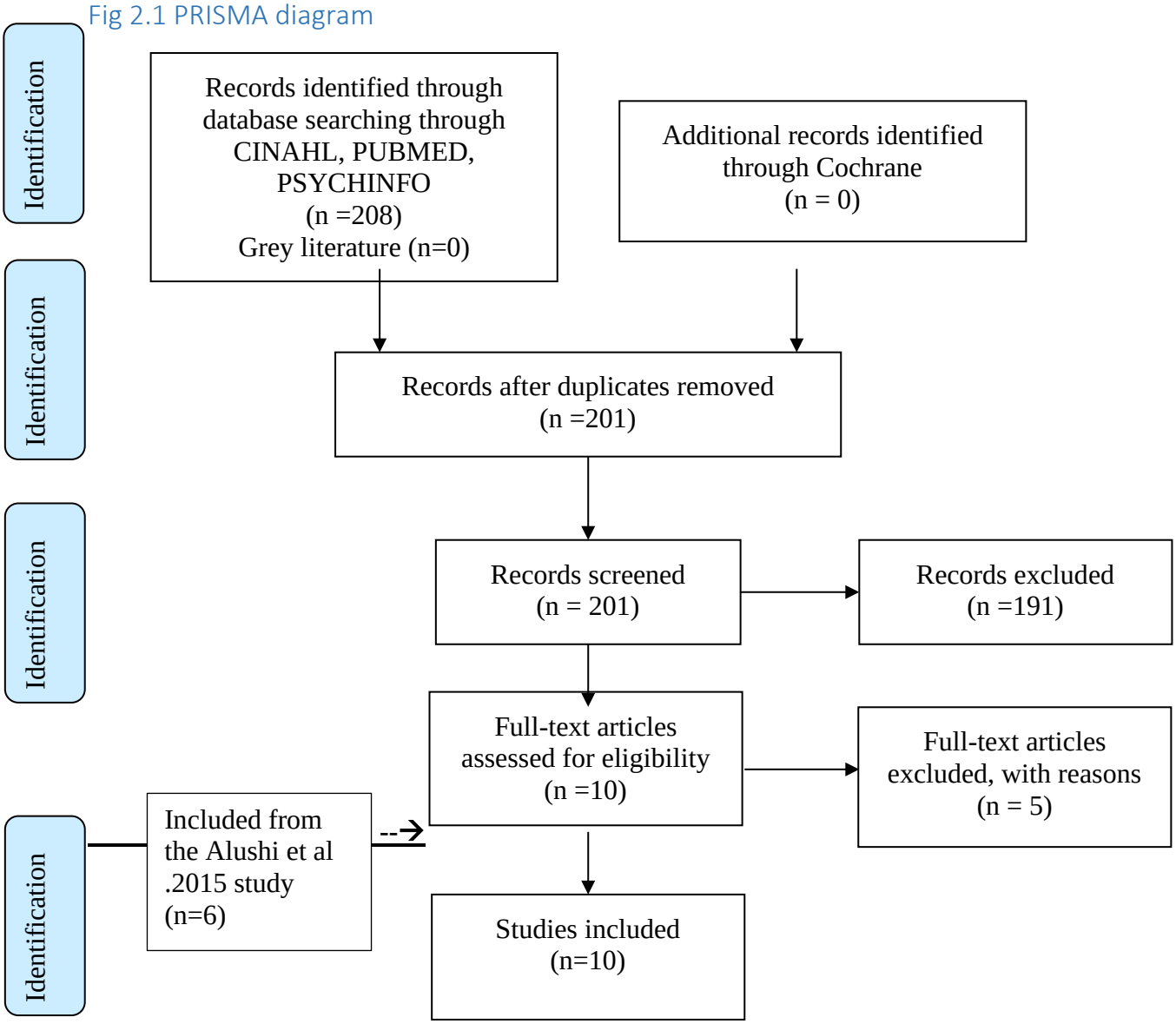
We used Boolean phrase OR to extend our search and AND to narrow our search. We used MeSH terms *students, undergraduates, pre-registration, nursing, occupational therapy, speech and language, physiotherapy, medicine, medical, inter-professional, healthcare, dementia, Alzheimer's, cognitive impairment, memory loss, lewy body, frontotemporal, communication, training, skill, knowledge, intervention, program(me), education and interprofessional.* We used truncation for nurs* in our original database scoping. We used synonyms specific to healthcare students, dementia and educational interventions. We used

brackets for searching program(me) and student(s) to ensure all spelling variations were included in our search. The search was reported as per PRISMA guidance (Figure 2.1)

Table 2.1 Search terms used

P	*students, undergraduates, pre-registration, nursing, occupational therapy, speech and language, physiotherapy, medicine, medical, inter-professional, healthcare*
I	*dementia, Alzheimer's, cognitive impairment, memory loss, louis body, frontotemporal,* *communication, training, intervention, program(me), education* *interprofessional, skills, knowledge*
C	*Not specified*
O	*Knowledge, attitudes, behaviour, competency, quality of interaction*

Fig 2.1 PRISMA diagram



2.5 Analysis

The literature search identified two hundred and eight (n=208) studies. These were downloaded to endnote and duplicates (n=7) were removed. Papers were initially screened by one author (AS) using the title and abstract and one hundred and ninety-one (n=191) articles were excluded (Table 3.1 & 6.1 outlines reasons for exclusion). Ten articles (n=10) were read in full, from these five studies were included in the final review. One protocol (Banjeree et al. 2016) was identified and the lead authors were contacted but there was no publication to date.

The project supervisor (CN) independently screened the included articles to ensure that all articles met the inclusion criteria. Data was extracted from the articles in line with the Alushi et al (2015) extractions tables (Table 2.1).

The master's student (AS) hand searched the references of relevant studies and originally did not include the original studies from the Alushi et al (2015) review but due to the small number of relevant studies, I subsequently included five studies from Alushi et al. (2015).

In total, we were unable to access three articles and all leading authors were contacted. This left us with a total of ten articles meeting the inclusion criteria. A grey literature search was also conducted on google scholar and open grey. There were no articles recovered from this grey literature search that met our inclusion criteria.

2.5.1 CASP quality review

The methodological quality of the studies was assessed using the modified CASP. The CASP tool was used by Surr et al. (2017) in a similar review of dementia communication and allowed for the quality review of a broad range of study designs. This tool appraised the research quality across seven main criteria, all of which ranged from 1-12 items. Criteria were assessed as fully (score=2), partially (score=1), or not met (score=0) with a maximum score of 14. Overall, a low score ranged from 0-5, a medium score ranged from 6-10 and a high score ranged from 11-14 (Table 2.3).

2.6 Study overview

In total, ten studies were included from the initial screening of two hundred and eight papers (n=208). Studies were from the U.S.A (n=6), U.K (n=3) and Germany (n=1). Study populations included student nurses (n=5), medical students (n=3), medical and nursing students (n=1), speech and language students and audiology students (n=1). The sample size ranged from 15 to 144 participants and the mean number of participants was 62.

Table 2.2 Summary of research studies

Author, year & Country of study	Research question or study aim	Research design	Sample details	Intervention	Data collection including research instruments	Key findings and conclusion	Limitations
Naughton et al., 2018 a,b United Kingdom	Develop and test acceptability of DC intervention among student nurses. Examine the impact of the intervention on student's ability to recognise PCC compared to control group student	Feasibility, Cluster non randomised control design Mixed Method	Five hospital (2 intervention. (I), hosp. with 5 OAU); 3 control hospitals (7 OAU). Student nurses n=80 (I, n=38; C n=14) Voluntary recruitment	I: 2.5 hour face-to-face workshop (information giving, role play, discussion, student manual) + OAU placement (intervention delivered at start of placement). C: standard training +OAU.	Mix-methods (survey and focus groups) Electronic questionnaire (pre-post) Instruments: a)Bespoke case vignettes to test PCC, b)Sense of Dementia Competence c)Dementia Knowledge-20; d)Bespoke communication confidence Focus groups were held with intervention group students (explore mechanism of action)	Intervention feasible to deliver & acceptable to students. Intervention grp significantly more likely to identify PCC median 11 (IQR 3.2) compare to Control students 9 (IQR 5) (p=0.002). No other significant difference.	Non-randomised design. Small sample size, esp. C group Non-validated tools, No patient reported outcomes. CASP: 11 medium quality.
Wood.J. H., et al., (2015) United Kingdom.	Evaluate the impact of an inter-professional (IP) dementia education intervention for all	Longitudinal survey (4 times points) Baseline, After IP	2nd and 3rd year Nursing and PT students. Implemented as part of	Didactic teaching (4 hours) (theory of dementia) + Workshops 3 hrs), (advanced	Pre-post Survey Bespoke Questionnaire data collected at start and end of class via paper	Following IP: Knowledge scores significant increase from baseline post-education T2 (median difference 3 points , p= <0.001. (IQR 0.75-6.0,	CASP:7 Low Quality, tools not validated, bespoke questionnaire, questionnaire deemed discriminative by control (n=120), data self-reported by students. No randomisation, no control.

	undergraduate students Plus care home experience (CHE) (subgroup)	After CHE Six-month follow-up for CHE only	circicula, CH visit voluntary IP Education only Baseline (T1) n=75, T2= 60% RR (45/75)) Care home visit (61% (n=13/21) completed visits & questionnaire (T3) Six-month (T4) follow-up IP n=40 (53%RR) CHE n=9/13 ((69% RR)	communication skills, reminiscence, life story work empathetic engagement behaviour)+ Online learning (open source SCIE dementia prog) plus sup-grp students volunteered (n=21) undertook care home visits (4*3 hour visits)	format. Bespoke instruments: Knowledge questionnaire (20 items, based on teaching content) Communication confidence (5 items)	and was sustained at T4 6 months (put in data) confidence increased post I at T2 (p=.001 n=47 SD 12.2) and was sustained 6 months post I (p<0.001, n=40)	

Balzer K. et al., (2015) Germany	To develop and pilot a training course on dementia care which has the potential to enhance medical and nursing student confidence in their competencies and to deliver EBC for people with dementia irrespective of care setting.	Development and piloting of a course curriculum followed by quantitative course evaluation.	1st year Medical student (n=10) and 3rd nursing students (n=8) Voluntary recruitment.	Lectures (n=6 epidemiology, pharmacology, non-pharmacology, ethics and EBP) PBL (min n=3 90min sessions) and final presentation (30 min presentation 10 min discussion) HC visits (min n=2 x225 minute) questionnaire pre and post I (Zumbachs teaching	Zumbachs short scale on teaching evaluation was used to assess course quality objectively. Quantitative data was analysed descriptively and answers to opened ended questions were content analysed. Paper format	Median overall quality was rates as '2' (IQR: 2-3) 1: very good 6: inadequate. There was no distinct difference between medical and nursing student perceptions of the programme. highest scoring components were the CH visits n=8 score of 1 and PBL n=7 score of 1. Lectures n=8 : score of 2. Poorest scoring component: n=1 score of 6 for lectures, n=1	Zumbachs short scale teaching evaluated adapted, student self-reported results, no randomisation, no control, programme content focused, low recruitment rate and small sample size, PBL groups hosted by same person(s) delivering the intervention CASP=7 Low quality

				evaluation adapted)			
Cockbain et al., (2015) UK	A dementia workshop was designed by a geriatrician in direct response to the gap in dementia communication education, skills and techniques on medical student curricula.	Development and piloting of a pre-post survey design using likert scale.	N=144 first year medical students. N=104 returning forms post intervention.	Dementia verbal and non-verbal communication workshop using clinical scenarios n=4x2hour sessions. Groups n=4 student: actor 5:1. Post scenarios feedback sessions with facilitator. Students received communication skills	Confidence was assessed pre-post intervention using 5-point likert scale. N=129 free feedback forms	Student confidence was higher post I=median 2.75 post I. median=1.50 pre I. ($p<0.001$) N=90 had increased confidence post-I (86.5%) N=2 1.9% had decreased confidence post I, and n=12 (11.5) were unchanged. N=95/129 (73.6%) most valued the non-verbal communication techniques according to the free text feedback. Kirpatricks level of Feedback:2b	Student self-assessment. likert scale (Confidence assessment) was double circled so a mean of the 2 was recorded. No control, No randomisation. CASP=8

				handbook post intervention.			
George et al., (2013) Pennsylvania, USA	This study evaluates weather participating in TimeSlip, a creative group-based storytelling program involving persons with dementia, improved medical students attitudes towards such patients.	Quasi-experimental design Pre-post evaluation	Fourth year medical students N=22 (12 Male 10 Female) Residents N=20	8 visits to the retirement community Post session debriefing (5-10 minutes) Education session at the retirement community which covered interaction using 'validation'.	Dementia attitude scale (DAS) level of agreement with 20 statements on a seven-point likert-scale. (1 strongly disagree 7 strongly agree) Subdomains 1) knowledge and 2) confidence. Pre-test on first day and post-test on final day (4/52 between)	significantly more positive attitude after intervention on 12 of 20 items. 9.94% increase in the knowledge domain 24.15% increase in comfort domain Overlal statistically significant improvement (16.02%)	Small sample size for quantitative study. Confined to one residential facility No control. Longitudinal impact inclear. Internal consistency of DAS only preliminary. students self-selecting.
Jefferson et al., (2012) Nashville, USA		Quasi-experimental Pre-post evaluation.	First year medical students N=45	3 hour lecture on advanced dementia, fundamentals of dementia and	The Buddy Program Dementia Knowledge Test 33 Item Measure	Significant improvement in dementia knowledge, skills and positive attitude post intervention Qualitative themes: • greater	Small sample • Purposeful selection of enthusiastic and committed students. • Tools not validated

				communication skills • PAIRS program – students paired with an early-stage dementia "buddy", met monthly minimum 4 hours for 6 months. • Monthly meetings for supplemental training & share experiences	Boston University Dementia Knowledge Test 66 Item measure	understanding of AD • aware care partner burden and human side, hopeful outlook • educational value of monthly meetings • impact on clinical practice	
Jordan & Church (2013) USA		Quasi-experimental Pre-post evaluation design.	Junior level baccalaureate nursing students N=39	Clinical placement in a 104-bed nursing home • Reading assignment on importance of holism in	Pre-post evaluation with 10 item validated and modified general self-efficacy instrument. Qualitative (no specific	significant improvement in self-efficacy. • before the experience negative feeling regarding engaging in the activity and discomfort with the process. • From observation, students	Method of analysis for qualitative data not reported. • Assumption that negativity surrounding dementia care comes from low self-efficacy.

				caring for people with dementia • 45-minute psychosocial activity with classmates involving residents.	methodology identified) Data; clinical log addressing thoughts and feelings about experience. Discussion pre and post activity.	comfortable & enjoying interactions.	
Kaf et al,. (2011) Springfield, USA		Quasi-experimental design Pre-post evaluation.	I= 1st and 2nd Year Audiology students N=33 Speech and Language Pathology students N=42 Control group	Intervention group Service learning experience 2 hearing evaluations on people with dementia (2-3hrs, n=19 audiology students) 15 visits (15hrs, n=24 speech-language	Validated tool Kogan's attitudes towards old people scale Data entries pre and post intervention with content analysis.	Results analysed separately for audiology and SLP students. More positive attitudes post intervention in both groups. Significant difference between intervention & control groups. Qualitative analysis of audiology and SLP combined prior to experience: 53% responses: idea of task & communication difficulty. 32% concerns about being around people with dementia experiencing	Time spent with people with dementia both current and in the past not taken into account. Two disciplines not comparable as different interventions

				pathology students) paired with 24 people with dementia in nursing home Control group (used in qualitative analysis)- No intervention		health decline. • 21% nervousness about working with older adults after experience:	
Paquette et al., (2010) Milwaukee, USA		Quasi-experimental design Pre-post evaluation	1st Year nursing baccalaureate nursing students N=100 (N=50 per semester) Active Group N=14 Observer Group N=86	Lecture on delirium, depression and dementia. • Elder care simulation	6-item questionnaire developed by faculty members assessing 1) comfort communicating with confused adults. 2) Knowledge in assessing elder's cognitive problem.	Significant increase in comfort & knowledge in active and observer groups. • Observers learned from watching but practical experience would have been helpful • commented positively on simulation experience	No clear distinction between those who were active & observers. • Evaluation survey not mandatory, but reasonable response rate 63%

Ross (2012) Texas, USA		Post intervention evaluation.	Undergraduate baccalaureate level gerontology nursing course N=76	8 hours service learning in community Reflection on service learning	10-item questionnaire for community staff. 9-item questionnaire for students slightly modified from Bender (2008) 2-page paper reflection from the students, method of analysis not reported.	Positive feedback from students & staff. Students experienced the service learning as an opportunity to: • interact with people with dementia • learn theory in practice • overcome negative stereotypes • develop greater empathy & insight.	Positive feedback from students & staff. Students experienced the service learning as an opportunity to: • interact with people with dementia • learn theory in practice • overcome negative stereotypes • develop greater empathy & insight.

Table 2.3 Critical appraisal skills programme (CASP)

Quality criteria are…	Balzer et al., (2015)	Cockbain et al., (2015)	Naughton et al.,(2018)	Woods et al., (2016)	George et al., (2013)	Paquette et al., (2010)	Jefferson et al., (2012)	Jordan and Church (2013)	Kaf et al., (2011)	Ross (2012)
Is the research aims and hypotheses clearly stated?	1	1	2	1	1	1	1	1	1	0
Are ethical issues addressed?	0	0	2	1	2	1	0	1	0	0
Is the methodology/study design is appropriate to the research question and rational for choice evident?	1	2	2	1	2	2	2	1	1	0
Is the sample size, selection and description are appropriate?	1	1	1	1	1	1	1	1	1	1

Are the methods of data collection appropriate, reliable and valid?	1	1	1	1	1	1	2	1	1	1
Are the methods of data analysis reliable and valid?	1	1	1	1	1	1	2	1	1	1
Are the findings and discussion clearly stated and appropriate?	1	2	2	1	1	1	2	1	1	1
Total	6	8	11	7	9	8	10	7	6	4

2.6.1 Study quality

The overall quality of the studies was variable and included nine low-quality studies (Balzer et al., 2016, Cockbain et al., 2015, Kaf et al., 2012, George et al., 2013, Jefferson et al., 2012, Jordan and Church 2013, Paquette et al., 2010, Ross 2012 and Woods et al., 2016) and one (n=1) one medium quality (Naughton et al., 2018) as per the CASP criteria.

Nine articles (n=9) clearly stated the aim(s) of their intervention (Balzer et al., 2016, Cockbain et al., 2015, Kaf et al., 2012, George et al., 2013, Jefferson et al., 2012, Jordan and Church 2013, Paquette et al., 2010, Ross 2012 and Woods et al., 2016) and two studies (n=2) stated a hypothesis (Jefferson et al., 2012, Naughton et al., 2018). Three studies (n=3) described an ethical review process (George et al., 2013, Naughton et al., 2018, Paquette et al., 2010 and Woods et al., 2017). None of the studies used randomisation to control for bias or confounding variables (Siepmann et al., 2016), Naughton et al. (2018) used a control group, but the group sizes were unequal (I=38, C=14).

Sample sizes were relatively small and ranged from eighteen participants (Balzer et al. 2016) to one hundred and four (Cockbain et al., 2015). All studies except for Ross et al. (2012) used mixed methods for data collection but none of the studies used similar instruments to measure outcomes. All of the studies used questionnaires to collect data but not all of the studies reported on the reliability and validity of the instrument (Balzer et al 2016 and Woods et al 2016).

There was a description of statistical methods, sample characteristics and outcome measures reported using tables in five of the ten studies (Balzer et al., 2016, George 2013, Kaf 2011, Jefferson et al., 2012, Naughton et al., 2018) and limitations were reported by authors in each of the papers.

The most significant limitations in the reviewed studies were the small sample sizes, lack of randomisation, lack of blinding of research staff, risk of selection bias, and use of non-

validated instruments (Cumpson et al., 2019). The lack of randomisation in many of the design means that the significant changes reported may not be ‘a cause and effect relationship’ and cannot be attributed to the intervention tested but could be related to confounding variables (Skelly et al., 2012).

2.7 Intervention components

The interventions were all quite different across the ten studies. Cockbain et al. (2015), Naughton et al. (2018), and Woods et al. (2016) described specific dementia communication workshops, whereas Balzar et al. (2016) described a problem-based learning dementia course but there was no specific detail on dementia communication skills.

Six of the ten interventions incorporated clinical learning opportunities as part of their intervention (George et al., 2013, Kaf et al., 2011, Jefferson et al., 2012, Ross 2012, Naughton et al., 2018, Woods et al., 2016). Naughton et al., (2018) utilised the student’s scheduled older adult clinical placement, whereas five studies (n=6) arranged extra-curricular sessions to facilitate patients with dementia and students (George et al., 2013, Jefferson et al., 2012, Kaf et al., 2011, Ross 2012 Woods et al., 2016).

Balzar et al. (2016) used PBL scenarios to enable students to explore different aspects of dementia and inter-professional communication, whilst George et al. (2013) used a validation technique which validates the person’s emotion as opposed to anchoring them to a single reality (Neal and Barton Wright, 2003). Cockbain et al. (2015) used role-play and developed a student manual and Woods et al. (2016) mentioned workshops on verbal and non-verbal communication but did not expand on the teaching strategies used. Naughton et al. (2018) was the only study to use a specific framework (VERA framework) based on communication theory. The duration and intensity of the interventions varied widely from a thirty-hour complete module (Balzar et al. 2016) to seven-hour stand-alone session (Cockbain et al. 2015) and a 1.5-hour workshop (Naughton et al. 2018).

All interventions were delivered face to face and common elements included didactic information giving and discussion (Balzer et al., 2016, Cockbain et al. 2015, George et al., 2013, Jefferson et al., 2012, Naughton et al., 2018, Woods et al., 2016).

2.8 Outcome measures

There was no common tool used across the ten studies. While Naughton et al. (2018) and Woods et al. (2016) measured student knowledge and confidence as outcomes they used different instruments to assess the impact of their interventions. The primary outcome in the Naughton et al. (2018) study was the student ability to identify person-centre opportunities for communication using bespoke case vignettes. Student confidence was measured using the Sense of Dementia Confidence instrument and knowledge was measured using the Dementia Knowledge instrument (Naughton et al. 2018)

Cockbain et al. (2015) assessed student self-perceived dementia confidence pre-post intervention and Balzar et al. (2016) focused on student course experience using the Zumbach's short scale on teaching evaluation (Zumbach et al. 2007), this did not examine the impact on student dementia knowledge or confidence. George et al. (2013) and Kaf et al. (2011) both evaluated student attitudes towards patients with dementia using different instruments. None of the studies measured the impact on clinical practice or included patients.

2.9 Impact of the intervention

The ten studies tested different interventions for dementia communication skills for pre-registration healthcare students; overall the interventions were well received and students felt they benefited from the specific training in dementia. Due to the heterogeneity in the evaluation methods it was not possible to pool data for a meta-analysis.

Table 2.4 Statistically significant changes within studies

Study	One or more statistically significant change
Balzer, 2016	Lack of measurements at baseline did not allow for statistically significant analysis
Cockbain, 2015	Higher self-perceived confidence post intervention (Z=-8.47, p<.0001, r=-0.59)
George et al., 2013	Post intervention student attitudes had a shift in a positive direction (p<.05).
Jefferson, 2012	Student dementia knowledge improved post intervention (t(44)= -6.3, p<.001).
Jordan and Church 2013	Significant improvement in self efficacy. Before the experience negative feeling regarding engaging in the activity and discomfort with the process. From observation, students comfortable & enjoying interactions.
Kaff, 2011	Content analysis showed 79% of student attitudes shifted in a positive direction and 10.5% moved in a negative direction.
Naughton et al., 2018	Students were more likely to identify person-centred responses post intervention [report I C data (p=002), no significant difference in other outcome measures.
Paquette et al., 2010	Both groups reported a significant increase in comfort and knowledge after the simulation.
Ross, 2012	Analysis of an intervention. Feedback was largely positive but sample size is too small for a statistically significant change
Woods et al., 2016	Increase in knowledge (Time 1-2, p>.001, n=47) no differentiation in knowledge.

Table 2.4 provides an overview of the impact of the studies. Five studies reported one or more statistically significant changes in the outcomes measured (Cockbain et al., 2015, George et al., 2013, Jefferson 2012, Naughton et al., 2018, Woods et al., 2016) and four studies (n=4) were too small for statistical analysis (Balzer et al., 2016, Jefferson 2012, Kaf 2011, Ross 2012).

2.10 Confidence and knowledge

Cockbain et al. (2015) post-intervention data showed an increase in confidence amongst 86.5% of students (n=90/104, p<0.001), over 14% increased their confidence by two or more Likert points (4-point Likert scale) and only 1.9% (n=2/104) students indicated reduced confidence post-intervention and 11% (12/104) reported no change in confidence.

Naughton et al. (2018) and Woods et al. (2016) reported positive impacts of their interventions on some of the outcomes measured. Naughton et al. (2018) compared intervention (n=38) students to control students (n=14) and reported a positive impact on students' ability to identify person-centred responses (p=0.002) in favour of the intervention group. There was no significant change in knowledge or Sense of Dementia Competency. Woods et al. (2016), tested knowledge pre-post intervention and reported a significant improvement from baseline 64%(n=48/75 ,p<.001), this effect was still seen at six-month post-intervention follow-up 53%(n=40/75).

Similarly, within the same study confidence scores showed a significant improvement post-intervention that was sustained at six months (p<.001) (Woods et al. 2016). Woods et al. (2016) extended the intervention to include care home visits for a subgroup of students 17% (13/75). In this student sub-group, there were no significant differences in knowledge, however, there was a significant increase in self-reported dementia confidence (Woods et al., 2016). Caution is warranted due to the small sample size in the sub-group analysis.

Jefferson et al. (2012) compared pre and post student survey data using paired sample t-test and identified an improvement in student knowledge (7.5%) and understanding of different conditions such as 'sundowning' (32% increase in understanding post-intervention).

2.11 Attitudes and other outcomes

Balzer et al. (2016) did not undertake any statistical test due to the small sample size (n=18). Overall students reported high levels of satisfaction with the course content including the visitations to the care facilities. Students commented that the non-pharmacological interventions and dealing with neuropsychiatric symptoms should be addressed in more detail as part of the course.

George et al. (2013) used paired t-test to evaluate the mean change in students' attitude to people with dementia pre and post intervention. Due to abnormal distribution, the Wilcoxon signed-ranking was used. All but one item on the Dementia Attitudes Scale (DAS) showed a

positive increase in student attitudes towards people with dementia. Overall, there was a 24.15% increase in the student self-perceived 'comfort domain' post intervention.

Finally, Kaf et al. (2011) used paired t-test to measure student attitudes towards people with dementia and showed a positive increase in student attitudes towards people with dementia after the intervention.

Table 2.5 Items measured within each study.

Study	Dementia Knowledge	Confidence	Attitudes	Person-centred response	Acceptability	Course experience	Comfort in domain	Other
Balzer et al., 2016	+	+	NM	NM	NM	+	NM	
Cockbain et al., 2015	~	~	NM	+	Yes		NM	
George et al., 2013	+	MNM	+	NM	NM		+	
Jefferson et al., 2012	+	NM	+	NM	NM	NM	NM	SKILLS +
Jordan and Church 2013	NM	NM	+	NM	NM	NM	+	
Kaff, 2011	NM	NM	+	NM	NM	NM	NM	
Naughton et al., 2018	+	NM	NM	+	+	NM		
Paquette et al., 2010	+	NM	NM	NM	NM	NM	+	
Ross 2012	NM	NM	NM	NM	NM	+	NM	
Woods et al., 2016	+	+	NM	NM	NM	NM	NM	

+ = statistically significant increase/ improvement; ~ No change from baseline - significant reduction, NM= not measured.

2.12 Discussion

The systematic review only found ten studies on teaching dementia communication skills to undergraduate heath are professionals in the past 10 years, five of which were new since the literature review by Alushi et al. (2015). All of the studies were pilot or feasibility studies and were of generally low to moderate quality. The studies tested very different interventions and used different outcome and measurement instruments. For example, Naughton et al. (2018)

and Woods et al. (2016) both measured dementia knowledge and confidence but used different instruments.

Building on the Alushi et al. (2015) and Surr et al. (2017) systematic reviews, teaching dementia communication skills remains highly variable, there is no standardised content or frameworks for teaching dementia communication. A recurrent theme across studies is that, students were highly receptive to dementia training and generally requested that more time should be allocated to that topic in their curricula (Balzar et al. 2015, Cockbain et al. 2015).

Where the training was compulsory, student participation was high, for example Woods et al. (2016) recruited over 140 students, but only a small portion volunteered for the additional care-home visits. Participation was high when training was delivered during core curriculum hours however, scheduling extra-curricular activity such as clinical visits proved challenging with low student uptake. This suggests that dementia communication skills need to be embedded in the curriculum with resources to deliver the training at scale.

In our systematic review, eight of the ten studies tried to align classroom training with clinical learning either in acute care or care home settings. This was similar to the Alushi et al. (2015) systematic review whereby the majority of studies tried to incorporate opportunities to interact with people with dementia. This illustrates the importance of applying theoretical learning to clinical settings and that dementia communication is a skill that needs to be practiced. From all the studies reviewed, the VERA framework seemed to offer the greatest potential to be replicated in a different health care setting, but it requires further testing (Naughton et al.,2018).

This systematic review provided an updated review of dementia communication interventions available to undergraduate healthcare students. It identified five new studies that had not been previously reviewed by Alushi et al (2015) or Surr et al (2017). The small number of

published studies highlights the evident gap in undergraduate dementia communication education previously identified by Alushi et al. (2015) and Surr et al. (2017). One of the reasons for the lack of high-quality studies with adequately powered sample sizes is the lack of funding available to support this type of research despite it been a long-standing health system priority to provide appropriately skilled staff to better support people living with dementia (INDS 2014).

This literature review contributed to the development of our intervention by allowing us to review how other interventions were developed, delivered, and evaluated. It provided insight into opportunities and barriers to implementation encountered in other studies. We explored how interventions allowed opportunities for students to practice skills they have learned in workshops or didactic teaching through the use of care-home visits and scheduled student placements.

Some of the barriers included incorporating the dementia training within existing curricula, lack of standardise evaluation and outcome as well as the use of non-validated instruments (Alushi et al., 2015). None of the studies assessed long-term impact of interventions on behaviour and performance (Alushi et al., 2015, Surr et al., 2015). Variance in methods of intervention delivery informed the adaption of our intervention content, duration, and resources. There is an evident need to focus on student-centred learning approaches including role play, rehearsal, simulation and discussion.

2.13 Rational for study

The literature review highlighted the lack of consensus on best practice in dementia communication, none of the interventions were replicated or tested in more than one setting.

The purpose of the literature review was to inform and aid the development of an undergraduate dementia communication intervention for Irish undergraduate nursing

students. Considering the limited evidence available and the quality of this evidence key learning to consider in designing and evaluating dementia communication are outlined below.

Our dementia communication intervention needed to be formulated on an evidence base theory. The VERA framework offered the greatest potential for replication within an Irish acute care setting and was identified as the only evidence-based theory captured within our literature review (Naughton et al., 2018).

Based on the evidence reviewed, it was clear that a hybrid of didactic teaching in combination with clinical exposure was best received by students, thus an opportunity to apply new communication skills in practice is an important component in intervention development. In terms of study evaluation, it was important that we measure the effect of our intervention in an objective manner, this is novel in this field of research, as none of the studies measured the impact on clinical practice nor included patients. Study evaluations relied largely on self-report and only engaged with the student perspective.

The key learning from this review to address weakness in previous research was the importance of using a control group plus randomisation to reduce risk of bias, to use validated tool to measure outcomes and to assess the impact on student behaviour in a clinical setting not just knowledge and attitude.

2.14 Conclusion

The purpose of this literature review was to identify and review available dementia communication interventions amongst undergraduate healthcare students. From reviewing the literature, it is obvious that there is a need to further development dementia communication interventions/programmes for undergraduate healthcare students. There is also a need for further instrument validation. Study evaluations relied on student self-assessment using surveys or in-depth interviews, there was a lack of objective measured outcomes using

observation or patient/family feedback. The VERA framework is based on person-centred theory and preliminary evidence suggests a promising foundation level dementia communication skills training for undergraduate students. The rationale for the current study is to examine the applicability of VERA framework in a different education system and to test the feasibility of collecting student and patient outcome measures.

Chapter 3

3.1 Introduction

In this chapter, I will describe the study design and the theory underpinning the development of the intervention. I will justify the study design, sampling, data collection, and statistical analysis. I will also discuss the ethical considerations in conducting this study.

3.1.1 Aims and objectives

The overall aims of this study were to modify and examine the acceptability of a dementia communication intervention for undergraduate nursing students and to test the feasibility of a quasi-experimental design. The study aimed to address uncertainties prior to conducting a pilot or fully powered randomised trial of dementia communication versus education as usual or to determine that such a study is not appropriate and/or feasible. A feasibility study 'focuses on conducting research to examine whether the study can or cannot be done' (Orsmond and Cohn 2015). It differs from that of pilot studies that are smaller versions of the main study used to test whether the components of the main study can all work together" (NIHR, 2012)

We hypothesized that

i) *'A dementia communication intervention based on the VERA framework will increase students' ability to recognize opportunities for person-centered communication compared to students who receive the standard curriculum'.*

ii) *Students who receive the dementia communication intervention based on the VERA framework will demonstrate increase positive interaction with patients living with dementia compared to students receiving the standard curriculum'.*

The objectives of the study were to

a) Modify an existing education intervention based on the VERA framework and test delivery of the workshop.

b) Test the feasibility of student recruitment and retention in the study.

c) Test the logistics of data collection including undertaking structured observation using the quality of interaction schedule (QUIS) in the acute care setting.

d) Test the reliability and validity of the research instruments.

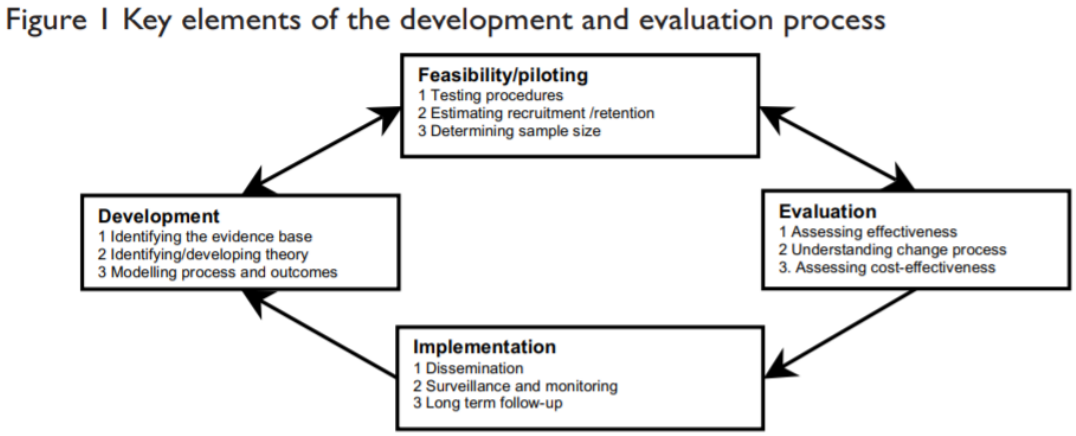
f) Assess the variance in outcomes between the intervention group and the control group.

3.2 Research Design

The research design selected had to achieve the primary aim of developing and testing an intervention. The approach to the study design was informed by the Medical Research Council Framework for Developing and Evaluating Complex interventions (MRC 2006). The MRC outline four distinct phases: development, feasibility/piloting, evaluation, and implementation (Figure 1).

In Chapter 2, I identified there were no previous intervention studies of dementia communication interventions in an Irish student population. In addition, the review identified there was limited development of the VERA dementia communication intervention (Blackhall et al., 20111 Naughton et al., 2018). Thus this study combined developing of an intervention, testing the acceptability of the intervention with end users and testing the feasibility of elements of the evaluation design (study population recruiting and retention, data collection procedures, data analysis strategy) (Figure 3.1).

Figure 3.1



As per the MRC Framework outlined by O'Cathain et al. (2019) the development and feasibility phases in intervention studies are iterative and overlap.

> *Once an early version or prototype of the intervention is available, refine or optimise it using a series of iterations. Each iteration includes an assessment of how acceptable, feasible and engaging the intervention is, including potential harms and unintended consequences, resulting in refinements to the intervention. Repeat the process until uncertainties are resolved. Check that the proposed mechanisms of action are supported by early testing.(* O Cathain et al., 2019, p.2).

A feasibility study is concerned with testing the fundamentals of study design where there is a high degree of uncertainty due to limited prior research on an intervention or among a specific population (Eldridge et al., 2016). This is the case with the current project, there were a large number of uncertainties that had to be addressed to inform the appropriate research design to measure the effectiveness of the intervention.

The following uncertainties necessitated a feasibility testing phase, to investigate the following issues:

a) how would I deliver the intervention (small group, large group)?

b) would the intervention be acceptability to the target study population?

c) would I be able to recruit and retain students for the baseline and post-intervention evaluation?

d) Would there be greater attrition in the control group compared to the intervention group?

e) Would data collection methods work to achieve acceptable response rates?

f) Where selected outcome measures appropriate and sensitive to the intervention?

g) What is the variation in the outcome measures which is used to calculate sample size?

Feasibility studies use a mix of quantitative and qualitative methodologies to collect data, but they are not considered mix-methods studies as defined by Creswell et al. (2007). The focus is always on knowing how best to implement and evaluate the intervention and are informed by the principles of clinical trial design (Creswell et al., 2017). A feasibility study will inform the decision on whether a randomised or non-randomised trial is possible before committing large scale resources to undertake such a study.

This project had two distinct phases intervention development and intervention evaluation, each of these phases is described in detail in the remainder of this chapter.

3.3 Developing the intervention

The genesis of this project was to adapt and test a previously developed dementia communication intervention-based on the VERA framework as described by Blackhall et al. (2011).

In this study, the intervention was adapted for and Irish student cohort in an acute-care setting and an intervention evaluation strategy was tested to examine the feasibility a future randomised trial design.

The acronym VERA stands for Validation, Emotion, Reassurance and Action and is underpinned by person-centred care (Kitwood 1997) which is the dominant theory in caring for people living with dementia (Table 3.1)

Table 3.1 The VERA Framework (Blackhall et al. 2011, Naughton et al. 2018)

VERA	meaning	Definition	Example
V	Validate	Accept that a person's behaviour has value and means something to them.	'Joan, do you want to get home for tea?'
E	Emotion	Pay attention to the emotion, even if it's difficult to figure out exactly what the person means.	'Joan, you sound upset and worries!'
R	Reassurance	Reassure the person that they are safe.	'Well make sure you are ok. You are safe here'.
A	Activity	Activities that have a meaning and are appropriate to the person's emotional state. Activities can help relieve boredom and act as a distraction.	'Joan, can you show me your photo album?'

3.4 Underpinning concepts

The VERA framework was developed based on the theory of person-centred care (Kitwood 1997) and validation (Feil 1963). For the purpose of the intervention I have made reference to reality reorientation (Spector 2007) and cognitive stimulation (Spector et al., 2003), I will discuss this in more detail below.

3.4.1 Person-centered care

Person-centred care is an approach developed by Tom Kitwood (1997) which keeps the person's wellbeing at the centre of care. Kitwood (1997, p 46) defined it as '*a standing or status that is bestowed upon one human being, by others, it implies recognition, respect and trust'*. Person-centred care values the individual with dementia and their reality intending to provide a positive social environment in which the individual can live therapeutically. This concept is integral to dementia care and focuses on individual personhood to prevent undermining or 'eroding' of malignant social psychology or the negative impact of certain behavior on care delivery (Kitwood 1997, Mitchell and Agnelli 2015).

Based on Kitwood's 'Person-hood' theory and person-centered care approach, Brooker et al (2011) developed the VIPS framework which operationalizes the principles as: valve, individual, perspective and social environment (table 3.2). It acknowledges that each individual has a unique character and that a cognitive impairment can affect each individual

in a different way. Rosvik et al. (2011) explored how the use of person-centered care and the VIPS framework can allow for enrichment of social interaction within this particular group despite the individuality of the disease. The VIPS framework encourages us to be open to and accept the 'perspective' of a person with dementia, even when their reality is altered or contradicts our own.

Table 3.2 VIPS (Rosvik et al 2011)

V	**Value** the person with dementia.
I	Treat the person with dementia as an **individual.**
P	Look at the **perspective** of a person with dementia.
S	Recognize that a person with dementia needs a rich **social** environment.

The VERA framework operationalizes validation based on Kitwoods (1997) theory of personhood and the VIPS framework (Rosvik et al. 2011). It focuses on engaging with the person with dementia in a socially rich environment whilst accepting that the reality or perspective of the individual has meaning.

3.4.2 Validation Theory

The VERA framework is based on Validation theory developed by Feil (1963). Validation, similar to VIPS, asserts the intrinsic value of the individual and thus 'acceptance of another person's reality' and is as a means of restoring independence and self-worth to those with cognitive impairment such as dementia. Validation aims to increase a person's independence, autonomy and optimise inclusion and exposure to social opportunities (Neal and Wright 2003). It allows us to see the person as a unique individual in a non-judgmental manor and to accept that there is a reason behind a person's behaviour. As a carer, the onus is on identifying the unmet care needs either psychological or physical needs (Neal and Wright 2003). Validation was developed partly as a counterbalance to reality reorientation (RO) which aims to anchor a person to a single reality. The rigid implementation of RO had been

criticised as insensitive to the individual and creating potential conflict between carers and people with dementia (Neal and Wright 2003).

3.4.3 Reality Reorientation

RO was first described as a technique to improve the quality of life of confused elderly people (Spector et al., 2000, p1), it entails the presentation of 'orientation information' such as the date, place, or time. This is done in an attempt to give patients with a cognitive impairment such as dementia a sense of awareness and control over their surroundings through the use of information giving (Spector et al., 2000). RO has been incorporated as part of cognitive stimulation and there is evidence that reality-reorientation can improve the cognition and behaviour of people with dementia once applied in a therapeutic manner (Spector et al., 2000).

In the Cochrane systematic review by Spector et al (2000), reality re-orientation was deemed beneficial to those who can retain the information but there has been some criticism of its rigid application which can be insensitive to a person with dementia who may be unable to retain the information (Spector et al., 2000). When information cannot be comprehended or retained, reality reorientation can cause conflict between the carer and the person with dementia, as the person with dementia may feel 'constantly corrected' and lack of control. Reality re-orientation is often a default communication strategy among healthcare staff in an attempt to anchor a confused person to one reality. Unknowingly, healthcare staff working in acute care use reality reorientation as a response to a patient with confusion asking questions or wanting to leave the ward. A quick response is given to settle the person without the healthcare professional being aware of or considering alternative approaches to recognising or validating the person's altered reality.

Although reality re-orientation attempts to delay cognitive decline through optimising neurological function and neuroplasticity, there is evidence to suggest that continuous

repetition of material to a person can have a negative impact on a person's mood and self - esteem (Spector et al., 2007). In response to this, cognitive stimulation was developed as a more therapeutic form of reality re-orientation. Cognitive stimulation is an evidence-based concept that uses RO in a sensitive manor to help re-orientate the person through the use of activity (Cove et al., 2014, Woods et al., 2012). It is one of the most popular interventions used by healthcare professionals working with people with dementia (Kim et al., 2017) and stimulates cognition using a therapeutic social environment and meaningful social activities (Woods et al., 2012).

3.5 The VERA Framework

VERA is predominantly based on a simplified version of validation (table 3.1). The VERA framework was developed at Anglia Ruskin University in 2011 as a foundation level dementia communication training for pre-registration nurses to support person-centered communication with people with dementia (Blackhall et al., 2011, 2015). VERA was a direct response to students' requests for more specific skills when interacting with a patient with dementia, in particular, what to do if a patient becomes distressed.

Validation

The first component of the VERA framework is validation. The VERA framework uses validation theory to acknowledge the person's reality and enables the student to accept that the behaviour of a person with dementia has value and meaning to them, even if it contradicts with the student's reality.

Emotion

The second component of the framework is emotion. The VERA framework encourages students to focuses on the person's emotion even if it is difficult to figure out exactly what the person needs. The VERA framework allows students to acknowledge that the person's emotion is valid within their sense of reality. A common example of this within acute care is when a patient becomes distressed and worried as they are unsure of where they are. The

VERA framework allows the student to focus on identifying and responding to the emotion of a person's fear or distress and treat this by mirroring (using tone of voice) or matching (actions) the emotion with a similar and appropriate response to the patient's emotion.

Reassurance

The third component of the framework is reassurance. This component of VERA reminds students to verbally articulate that the patient is safe and that the student is there to help. It helps provide a sense of safety and empathy to patients who may be experiencing distress due to their altered sense of reality and unfamiliar surroundings.

Activity

The fourth element of VERA is a meaningful activity. This is based on theories of cognitive stimulation and involves aligning an activity to the interest of the person and the person's emotional state at that time. For example, asking a person who is experiencing distress to sit down maybe counterproductive but bringing the person for a walk and using distraction may be better aligned to the person's needs. Other strategies include the use of picture books, photo albums, or simple reminiscence strategies.

3.6 VERA underpinning principles

VERA provides students with an alternative to reality reorientation. The VERA framework tries to avoid conflict by not anchoring a person with dementia to a single time point and prompts students to explore patient's unmet physical or social needs that may underpin the behavior. Students are encouraged to reframe behavior that was previously described as 'challenging behavior' as an expression of distressed or responsive behavior, the student nurse's role is to support patients to communicate their needs using both verbal and non-verbal strategies. The goal of training is to support students to develop flexible and individually tailored responses based on the patient's background and current needs. The VERA framework does not prohibit the use of RO, and acknowledges the RO is most

effective when a person has capacity to comprehend and retain the information given for the time necessary within the context of the situation.

3.6.1 The development of VERA in practice

Since the development of VERA, Blackhall et al. (2011) and Hawkes et al. (2015) have piloted the framework on two older adult wards where it received positive staff feedback and was described as a 'valuable, user-friendly communication tool' (Blackhall et al., 2011). This evaluation was solely based on staff feedback, therefore there was a need to assess student reaction and the impact on patient outcomes.

Naughton et al. (2018), conducted a quasi-experimental pre-post control design that involved a 1.5-hour training workshop with pre-registration nursing students based on the VERA framework. The training had a positive effect on students' ability to recognize opportunities for person-centered communication measured using case vignettes. All students found the VERA framework 'useful' and would recommend the training to their peers as well as nurses and health care assistants (Naughton et al., 2018).

The VERA framework has potential as a standardized foundation level dementia communication skills training as part of wider dementia education in nursing undergraduate curricula (Blackhall et al., 2011, Hawkes et al., 2015, Naughton et al., 2018). However, the effect of VERA in clinical settings and the impact on patient student interactions has not been evaluated and there is still a weak evidence base for its wider roll out. This led to our feasibility study that aimed to examine if and how the VERA framework effects the quality of interaction between students and people with dementia?'

In adopting the dementia training intervention for an Irish health context, the research team met with three nursing students on clinical placement and asked them to share their experiences of caring for patients with dementia, including patients with an altered sense of reality. To arrange this meeting, a clinical placement coordinator (CPC) was asked to invite

students who were on pre-scheduled placement to join our discussion. This discussion took place within the teaching hospital (hospital B) in the presence of a CPC and three members of the research team (A.S, C.N., C.K). The researchers took notes, but the discussion was not audio-recorded. It was stressed to students that this was an informal discussion at the study development stage and non-participation did not have an effect on relationship with student grades or placements. Implicit consent was given by students who were then invited to share their stories with us to explore the current strategies they used to communicate with patients with dementia and barriers to communication.

Students described a variety of both positive and less positive experiences. The main strategies used by the students included re-orientating patients to the hospital environment or 'going along' with a patient. Students described feeling uncomfortable with the concept of the 'therapeutic lie'. The 'therapeutic lie' is commonly used within dementia care when a career 'lies' to a patient or does not disclose a conflicting truth to a person with dementia or a person lacking capacity where it is believed to be in the best interest of the person (Cully et al., 2013).

We used these student stories to modify the role-play case vignettes previously described by Naughton et al., (2018) to ensure issues raised by students such as the therapeutic lie were incorporated into the workshop. A student nurse also acted as an advisor to the project on our research team and assisted us in developing the intervention components.

3.7 Dementia communication workshop based on VERA

The undergraduate dementia communication training was developed as a 1.5 hour workshop and situated the VERA framework within the broader principles of dementia communication. The dementia communication workshop was guided by COM-B model of behavioural change theory (Michie et al .,2014) and Robert Gagne's (1992) *'9 events of instruction'* to structure the content and delivery sequence of the intervention (Naughton et al., 2018). The training

also incorporated generic nursing communication principles such as Egan's pneumonic SOLER (2007) 'sit squarely, open posture, lean towards the other, eye contact and relax' which students were already familiar with.

3.7.1 COM-B model of behavioural change

The purpose of the training was to increase students' knowledge and adopt new communication behaviours. We used the COM-B behaviour change model developed by Michie et al. (2014) to support intervention development. The COM-B model is a synthesis of 19 behavioural change frameworks identified in a systematic review by Michie et al., (2014). It consists of three interacting core components: capability, opportunity, and motivation, it also describes nine intervention functions and seven policy categories (Figure 3.1) .

Fig. 3.2 COM-B Model

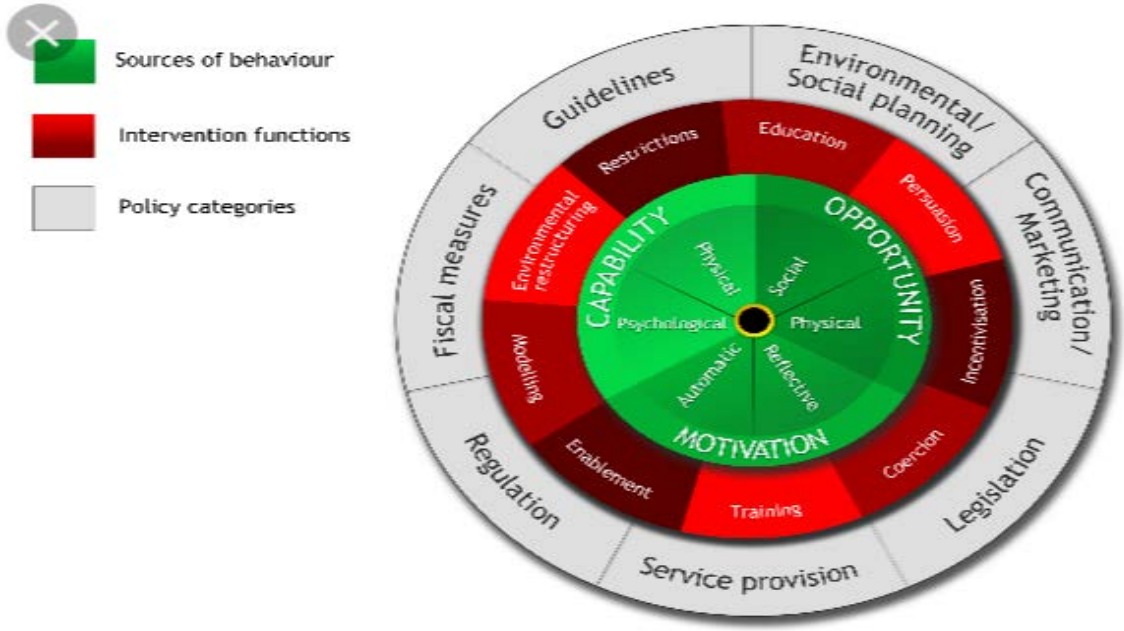


Table 3.3 COM-B Model of Behavioural Change (Michie et al., 2014)

COM=B	**Intervention Functions**	**Policy categories**
Capability (i) Physical (ii) psychological **Opportunity** (i) Physical (ii) social **Motivation** (i) Automatic (ii) Reflective **=Behavioral Change**	1. education 2. coercion 3. restriction 4. persuasion 5. enablement 6. training 7. incentivization 8. marketing 9. environmental restructuring	1. guidelines 2. fiscal measurement 3. environmental/social planning 4. marketing/ communication 5. legislation 6. service provision 7. regulation

A behaviour is 'anything a person does in response to an internal or external event' (Michie et al., 2014). Michie et al. (2014) explores how a change in behaviour can be caused by a person's capability, opportunity, and motivation. When a person has one or more of these three components collectively known as the 'behavioural system' (Michie et al., 2014), they are more likely to change target behaviour. The first phase of behaviour change is identifying the target behaviour, identify why this behaviour needs to be changed, identify exactly what component(s) of this behaviour needs to change and then identify intervention options using the behavioural change wheel (Figure 3.1, Michie et al., 2014). Examples of its effective use include England's Department of Health's tobacco control strategy (2010) and '*The National Institute of Health and Clinical Excellence'* guidance on reducing obesity.

To adopt or change a person's behaviour requires three core elements:

Physical and psychological capability: the person must be psychologically able to receive, comprehend, and relay information given to change the target behaviour. A person must also have the physical ability to participate in the subsequent activity/task.

Physical and social opportunity: the physical environment has to be conducive to adopting the new behaviour. A change in behaviour that contrasts with societal norms are difficult to implement and retain if the social environment does not support the change in behaviour i.e. peer support, and senior management support.

Reflective and automatic motivation: for a person's behaviour to change it requires a degree of motivation. This motivation can be automatic or reflective. Automatic motivation is motivation to carry out a behaviour without having to actively reflect upon intrinsic or extrinsic outcomes as a result of a behaviour change. Reflective behaviour is the active reflection or conscious decision making to change a behaviour which in turn motivates the individual to change a behaviour (Michie et al., 2014).

3.7.2 COM-B and the development of the intervention

The VERA framework contains five of the nine intervention functions of COM-B (Michie et al., 2014). Intervention functions help stimulate and facilitate the change of behaviour.

Capability: The dementia communication workshop training focuses particularly on student psychological and physical capability through education and training. Student learning is addressed through information giving (PowerPoint presentation), interactive role play and discussion.

Opportunity: The workshop is designed to be delivered to students prior to their pre-scheduled medical and older adult clinical placements. We could not ensure patients with dementia would be on certain wards at specific times, but overall students are more likely to come into contact with this cohort during their medical placements. The initial intension was to deliver the intervention to students allocated to older adult wards in the acute care hospitals thus, increasing the opportunity to come in contact with people with dementia. However, the numbers of students allocated to these units during the study period was low therefore we had to expand our intervention group to include other medical wards.

The intervention influences social opportunity by providing training to all students on placement together. This in turn, creates an opportunity for students to provide peer support to one another to apply the framework in practice.

Motivation: Motivation as part of the intervention is the most difficult element to influence. The intervention aims to influence reflective motivation that is students' intention to use the newly acquired skills. As the project relied on volunteer participation, students already demonstrated motivation to improve dementia communication skills. In addition, the workshop included discussions on possible barriers to implementing the new skills. This included 'if and then' scenarios with students- for example 'if a patient becomes upset during an interaction then you can do ….' (Michie et al., 2014). This strategy aims to provide students with alternative approaches to manage difficult situations and thus maintain their motivation to use the new communication behaviours.

3.7.3 Gagnes nine events of instruction

To structure the delivery of our intervention we used '*Robert Gagnes 9 Events of Instruction'* (1992) which provided a behaviourist approach to intervention delivery. The training session is based on nine steps to gain user attention and to create a behaviour change. Each of the steps are outlined in the table below.

Table 3.4 Gagnes nine events of instruction

Item	Description	Gagne's *'9 events of instruction'*
1	Gain Attention	Facilitator introduction
2	Inform learners of objectives	Students were informed of clear aims and objectives at the beginning of the intervention using PowerPoint presentation.
3	Stimulate recall of prior learning	Students were then asked to draw upon their own knowledge and experience of dementia in a clinical, academic or non-healthcare professional context. Student were asked to brainstorm both verbal and non-verbal communication strategies that they have seen, used or created.
4	Present the content	Content was presented using PowerPoint presentation and student were also given a student manual each with intervention content and supplementary activities that students can use in practice with patients.
5	Provide 'learning guidance'	Learning guidance was provided by outlining each component of the VERA framework and example giving.
6	Elicit Performance (practise)	Facilitators then demonstrated role play and how the VERA framework can be used in a clinical scenario. Facilitators used a poor example followed by group discussion and then a good example of VERA's implementation followed by further group discussion. Students were then split into groups of nurses and patients with dementia. The patient group were given a briefing of their clinical scenario and the nursing group were given a copy of the VERA framework used on the power-point. This included prompts that students could utilise (table 3.1). Student were asked to open their manuals and review the various games and activities which they could use to interact with patients on their clinical placement.
7	Provide Feedback discussion	Facilitators provided structured feedback to the group.
8	Assess Performance;	After the facilitator roleplay demonstration and student participation with role play vignettes students and facilitators collectively discussed what went well and what did not go so well
9	Enhance retention and transfer to the job; possible barriers	Possible barriers and facilitators to the implementation of the VERA framework in clinical practice was discussed by the group using slide 'What If?' This posed questions such as what you would do if a person became angry or if safety was an issue. Possible barriers to implementation that were foreseen by students were discussed. Students were advised by facilitators on how to deal with these various situations. Students were encouraged to use their student manual on placement and the evidence base behind the VERA framework was reinforced to students.

3.8 The dementia communication intervention

Based on the VERA framework and student discussion, we developed a 1.5-hour dementia communication workshop for an Irish undergraduate nursing cohort undertaking clinical placements in an acute care setting. The workshop had three main elements which included information giving, role play and operationalizing the skills in practice. The flow and content of the workshop are outlined below.

3.8.1 Information giving

We delivered our intervention with the aid of PowerPoint presentation. The aims and learning outcomes were outlined to students. Students were asked how they felt about caring for people with dementia and they were given an opportunity to voice any concerns. Different issues were addressed and discussed with facilitators and other students within the session. This was followed by a brief overview of dementia which included dementia etiology, types, symptoms, diagnosis, and stages.

3.8.2 Dementia communication models

The information giving included dementia communication models which were situated within a person-centered Care framework (Kitwood 1997) and emphasized the VIPs principles: valuing, treating the person as an individual, respects the person perspective and create a positive social environment (Rosvik et al., 2011). We emphasized relational care and the potential of a student to influence a patient positive experience especially within an acute-care setting (Post, 2001).

The principles of unmet physical and emotional needs were discussed and the nurse's role in identifying unmet needs in a patient who may have difficulty communicating. In small groups, students were asked to think about the different ways in which patients with dementia may try to connect and communicate needs, both verbal and non-verbal methods were explored. A verbal example includes a patient offering a nurse a sweet, a non-verbal example may include a patient smiling, wandering, or restlessness.

Students were asked to identify the positive communication skills they already use (soft tone, agreeing with a person, avoiding correction, affirming touch, smiling, nodding and avoiding pejorative language) and explore some of the negative communication approaches they may encounter such as elder speak and infantilization.

Facilitators provided examples of verbal and non-verbal communication strategies such as mirroring or matching the emotion that a person is portraying, reframing, clarifying, repetition and change of direction in order to deliver a greater sense of empathy or understanding to the other person (see table 3.7). Students were encouraged to use positive language instead of restrictive language such as ‘you can’t’ or ‘you are not allowed’.

Two broad communication models: RO and validation were introduced to the group with a definition and example of each. Although the VERA framework focuses on patient validation, we explained the theory of RO and where it may be useful. Facilitators emphasised that both approaches have their place and explained that choosing one approach over the other depends on the individual patient and context, that there were no simple wrong or right approach. The developed intervention recognised that elements of reality re-orientation (Spector et al., 2000, 2003) can be used in situations where patients can comprehend and retain relevant information. The focus of the training was on tailoring the communication response to the individual and avoid the rigid application of a single approach. Instead, students were encouraged to use observation and critical reflection to judge the best approach (RO or VERA principles) in each situation based on the patient response.

In addition to the two broad concepts, students were also introduced to the simple communication model ‘eye-talk-touch-empower’. This allowed students to operationalise the concepts in a practical manor, especially concerning the assistance of patients with activities of daily living (Royal College of Nursing 2015).

Table 3.5 Eye-Talk-Touch (Royal College of Nursing 2015)

Eye	Gain the patient's attention using eye contact
Talk	Use the person preferred name.
Touch	Use gentle therapeutic touch to gain person's trust, empower the person to maintain as much independence as possible.

3.8.3 The VERA framework

Students were introduced to the VERA framework and its four components, validation, emotion, reassurance and activity. Each component was defined, explained and supported with an example (table 3.1). Typical cases developed from the student focus groups such as the 'patient wanting to go home' or a 'patient asking where they are' were presented to students. Using the VERA framework, students were given different verbal prompts that could be used in these type situations to communicate effectively with the person with dementia and validate their reality.

3.8.4 Roleplay

Facilitators demonstrated VERA using role-play, a common patient-nurse scenario whereby the patient wanted to leave the hospital and the nurse was trying to keep him/her on the ward. In the first scenario, facilitators role-played a poor communication example which ignored the patient's reality and emotional response. In the second scenario, the facilitators demonstrated the application of the VERA framework.

After each roleplay students were invited to share their thoughts and opinions on 'what went well and what did not go so well'. Students were asked to reflect on the different priorities for the patient wanting to go home versus the nurse's priority to keep the patient safe and not allow the patient to leave the ward.

Students were then asked to roleplay different scenarios. Students were grouped into pairs and given the role of either the nurse or the patient. The student acting as the patient was

given a ‘patient script’ and instructed to remain in an altered reality, for example ‘trying to find a misplaced diary’ (appendix 1.9). The student allocated as the ‘nurse’ was given a copy of the VERA framework with suggested prompts (table 3.1) as a guide.

The nurse-patient vignettes were adapted from the Naughton et al., (2018) study (appendix 1.9) and from student consultation at the start of the project. The role plays typically lasted between four to five minutes. The students who played the part of the patients provided feedback to their roleplay partner on how communication skills could be improved. Students then switched roles and a new case vignette was commenced with the same format of debriefing for the ‘patient’ and ‘nurse’ by the facilitator.

3.8.5 Operationalising skills in practice

The most difficult part of VERA to operationalise is typically the ‘activities’. Students were asked to identify activities they could initiate with a person in an acute care setting if they had five minutes, ten minutes or twenty minutes. Students practiced simple reminiscence principles using photographs of famous events or people to initiate a conversation based on ‘what is your opinion’. These activities were part of the student manual (see appendix 1.11). Students also rehearsed different ways in which they can exit an interaction constructively especially if the patient exhibits distressed behaviour, For example ‘I can see you are upset, you are safe and I am here to help, I am going to give you space, but I will come back to talk with you in 10 minutes. Table 3.7 outlines examples given to students in which they could practice during the roleplay.

Table 3.6 Examples of VERA prompts used in role play

Validation Acknowledging reality Think of unmet need	Mirroring; Oh! You need to go home/catch train. You have lost your diary? You are looking for your clothes? You are in a hurry…. There is something bothering you, do you need to go to the toilet (hungry/thirsty/pain)
Emotion empathy, real emotion	I can see this is really upsetting you, I'd feel the same too and it is not a nice feeling. It is understandable that this has upset you. I can see that this has made you frustrated/angry/ I am sorry we are making you cross.
Reassurance Self-esteem, security	You are safe here! Your family know you are here. You are not in any trouble. You do not have to do anything that you do not want to. I am here to help you. We can do this together
Activity Distraction and cognitive stimulation, work with family.	I can see you are keen to leave, perhaps it's a good idea to use the toilet first? I hear you are very good at ---, maybe we can do ---- together? That is a lovely photo/book! Do you mind if we have a look at it together? I have some nice hand cream. Will I give you a hand massage? Conversation; the weather outside…. Coming into work this morning… could you help me….
Exit Leave positively	You are safe here! Your family know you are here. You are not in any trouble. You do not have to do anything that you do not want to. I am here to help you.

3.8.6 Student manual

As part of the intervention resources, we modified a student manual developed by Naughton et al., (2018) to reflect an Irish cultural context. During the workshop students were given a copy of the manual and they practiced some of the distraction activities suggested in the manual. For example, students practiced simple reminiscence techniques asking a patient with dementia their opinions of the pictures rather than do you 'remember' type questions which they may not be able to answer correctly. A hard copy of this manual was also left on the older adult wards to ease of student's access during placement (see appendix 1.11).

3.8.7 Barriers to implementation

Before completion of the workshop, students were asked to identify potential barriers and facilitators to implementing VERA in practice. One particular issue addressed was the therapeutic lie and clarifying 'how far do you go along with a person's reality'. The advice

given by facilitators was to acknowledge the reality and the emotion, but not to directly lie e.g. promising the person they can go home in the afternoon or that the bus will be here shortly.

In conclusion, a discussion of 'What If and Then' was led by facilitators addressing issues such as a patient becoming increasingly angry, dangerous situations or a scenario whereby a staff nurse questioned their communication approach. These were typical concerns identified by students. In response to this, students were then encouraged to share the manual with mentors and provide them with examples of the literature on VERA and its evidence base. An electronic copy of the manual was also made accessible to students via their student email.

3.8.8 Workshop feedback

After the workshop students completed a questionnaire to collect feedback on the session. The questionnaire examined what students liked about the intervention and what could be improved or changed. A 5-point Likert scale was used to assess student likelihood a) of using the communication techniques b) using on-line resources (if available) and c) recommending the training to a friend/colleague. An additional comments section was offered for students who wish to contribute further feedback on what they liked about the workshop and what they would change. Students were informed that all feedback was anonymous and feedback sheets were then collected on completion of the workshop.

3.9 Research design

We used a feasibility pre-post quasi-experimental design with a non-randomised control group. Given the study resources, it was only possible to recruit two sites with older adult wards, thus randomisation at ward level was not possible. Non-equivalent pre-post control designs are commonly used to assess educational interventions and associated behavioural change (Younger and Chen 2016).

Our pre-post control design aimed to examine the feasibility of i) delivering the intervention to student nurses allocated to older adult and medical units in hospital A, while students in Hospital B acted as the control group, ii) measuring the effect of the dementia communication workshop on undergraduate nursing students in Hospital A compared to Hospital B. The outcomes of interest were student's knowledge and ability to recognise opportunities for PCC and the quality of interactions between students and patients with dementia.

The intervention was designed to be delivered at a cluster level i.e. all students allocated to the same ward receive the workshop. To guide its development, we used the MRC '*framework of actions for intervention development'* and applied it to our study (Table 3.7).

Table 3.7 Intervention development plan using the MRC framework (2019)

	MRC Framework for intervention development	**Study elements**
1.	***Plan the development process***	- Ethical approval - Gagnes nine events of teaching - COM-B model of behavioural change - MRC framework - MRC guidance for complex interventions
2.	***Involve stakeholders, including those who will deliver, use and benefit from the intervention***	- Student advisor role - Student interviews - The formal research team - CPC engagement - Ward discussion with CNM's and student preceptors.
3.	***Bring together a team and establish decision-making processes***	- Research team
4.	***Review published research evidence***	- Chapter 2 literature review
5.	***Draw on existing theories***	Education workshop - VERA framework - Validation - Reality reorientation Intervention design - COM-B model of behavioural change

6.	***Articulate programme theory***	- Intervention development using Gagnes nine events of instruction (1992). - Hypothesis generated (we did not develop a Logic model)
7.	***Undertake primary data collection***	- Workshop questionnaires (Intervention feedback) - pre-post student questionnaires - Student observations - Semi-structured student interviews
8.	***Understand context***	- The selection of a feasibility study to identify the challenges and test strategies to deliver the intervention, collect data, undertake student observations within the acute care setting - Qualitative interviews with students
9.	***Pay attention to future implementation of the intervention in the real world.***	- Identification of gap within undergraduate dementia communication on a national and international level - Ward level discussions with identified key stakeholders - Challenges and opportunities discussion post intervention - Engagement with stakeholders
10.	***Design and refine the intervention***	- Documented intervention fidelity and changes to same
11.	***End the development phase***	- Completion of data collection, data analysis and dissemination of results - Paper for publication

3.9.1 Setting

Two hospitals were recruited to the study and all students allocated to medical and older adult units from January to June 2019 were eligible for recruitment. A sub-study component using non-participant observation was carried out on the older adult wards in each hospital, all students allocated to these wards were eligible for recruitment to the sub-study.

- Hospital site A (Intervention) is a model four hospital. The hospital has twenty-two wards where students can be allocated for clinical placement. The older adult ward is comprised of thirty-five beds for acute medical admissions with twenty-five beds assigned to the care of the older adult and ten to Rheumatology. One six-bedded bay is designated for patients with dementia which has a healthcare assistant or staff nurse allocated to it at all times to ensure patient safety.

- Hospital Site B (control) is also a level four hospital with eighteen wards providing clinical placements for students. The older adult unit has twenty beds and a six bedded room allocated to patients with dementia. This ward was redesigned to incorporate 'dementia friendly' principles e.g. different identifiers for patient's beds, an area for patients to engage in recreational activities in a safe manner and improved signage.

On both older adult wards, we intended to observe students interacting with patients with dementia to assess the impact of the intervention on student behaviour and communication skills.

3.9.2 Student recruitment

Upon ethical approval from the Clinical Research Ethics Committee (ECM4 aa 04/12/18), students who were eligible for inclusion were identified by the university's undergraduate nursing student allocation's office. The UCC undergraduate nursing student allocations granted access to relevant student university email addresses. Eligible students were identified at the undergraduate nursing student allocations office in the presence of A.S and the identified eligible students were then invited to participate via electronic email, this included all students scheduled for placement in both hospitals.

A separate email was sent to the potential intervention and the control students. Intervention students received a) a study information sheet b) a consent form c) and a workshop/intervention information. These students were provided with information about the overall study, student observations and focus groups.

The control group was invited to participate and they received a) study information b) consent and c) observation information. Students were offered an opportunity to receive the dementia communication education at the end of the study following final data collection.

Initially, we intended to deliver the intervention to student's allocated to the older adult wards only, but due to a small sample size, we extended our intervention group to include other medical wards in the intervention site. Our initial ethics application (ECM4 aa 04/12/18) encompassed this and we did not require an ethical amendment. We offered these students the intervention workshop but did not undertake observation on their ward because we could not predict if there would be patients with dementia on the ward at a particular time.

In an attempt to boost our sample size, we extended the intervention to 4th year nursing interns which followed the same process as our previous expansion.

The VERA dementia workshop was delivered to students in the intervention group during their university theory sessions as a voluntary additional classroom session. Due to busy student timetables this was often very difficult to organise.

As intern students were already on clinical placement, a teaching opportunity was identified during their scheduled 'preparation' week (prep week), an academic week all internship students attend prior to commencing each placement. The Clinical Placement Coordinator (CPC's) was contacted and we arranged to deliver the workshop as a voluntary component within the student prep week timetable. To remain consistent with the study design, this component remained a voluntary workshop.

3.9.3 Sample size

We used a consensus sample in that we aimed to recruit all students allocated to the eligible wards. We had no influence over student allocations. Our sample size was based on Whitehead et al. (2016) assumptions for estimating sample size for feasibility and pilot studies. One of the reasons for undertaking a feasibility study is to provide an estimate of the variance in the primary outcome measure, i.e. the standard deviation in the continuous variable. In this study the primary outcome was student's ability to detect person-centered

communication opportunities (Naughton et al., 2018) measured as a continuous variable (mean and standard deviation).

Whitehead et al. (2016) outlined approximate rules for feasibility/pilot sample sizes, in our study based on 90% power and two sides 5% significance, we required a minimum of 25 participants per treatment arm (n=50 in total) to detect a small (0.2) effect size.

In 2018, 42 students were allocated to clinical placements on the older adult wards, we anticipated by including the other medical wards we should be able to recruit a minimum of 25 students in both the intervention and control group.

In addition, all patients with dementia present in the specific dementia bays on each ward during the observation periods were eligible for inclusion in the study. We did not pre-specify a sample size for the observation sub-study on the older adult wards, we sought to test how many students and patients we could recruit for this aspect of the trial (Whitehead et al., 2015).

3.9.4 Inclusion and exclusion criteria

Inclusion criteria:

a) All students allocated to the medical or older adult wards in either hospital.
b) Students who provided written informed consent.

Exclusion criteria: students who had failed clinical placement or working under special supervision.

Only students allocated to the older adult wards were eligible to partake in the sub-study involving observation.

3.9.5 Ethics and consent giving

Our study included both undergraduate student nurses and patients with dementia therefore, particular attention was needed to ensure that all aspects of the study were ethical for both groups.

We considered the three main ethical theories of medicine which are consequentialism, deontology, and virtue ethics were all considered in this study. Possible consequences of this study were evaluated (Andric 2015) to ensure ethical principles were adhered to and deontology (how it is one's obligation as a nurse to do one's duty in accordance to the ethical principles and virtue ethics) was used to cultivate appropriate virtues within the study (Becker 2012).

This study also tested the protocols and procedures to ensure the four ethical principles of beneficence, non-maleficent, autonomy and justice were adhered to (Dowding 2017). Beneficence is the provision of good, non-maleficence ensures no harm or hurt, justice provides equality to all and autonomy allows us to respect the decisions of others (Jahn 2011).

A key element of our CREC application was the recruitment and consenting of patients with dementia or patients with diminished cognitive capacity to the study. In Ireland, there is a paucity of formal guidance for both researchers and clinicians working in the area of dementia care research. Best practice guidance is drawn from national legislation such as the Assisted Decision-Making (Capacity) Act 2015 and dementia organisations such as the Alzheimer's Society.

In Ireland, the Mental Health Act 2001, has been updated by the Assisted Decision-Making (Capacity) Act 2015. For the purposes of the Act, *'capacity for decision-making is defined as the ability to understand, at the time the decision is being made, the nature and consequences of the decision in the context of the available choices'*.

The principles of the Act are as follows:

> *The Act sets out guiding principles that are intended to safeguard the autonomy and dignity of the person with impaired capacity. There is a presumption that the person has decision-making capacity unless the contrary is shown. No intervention should*

> *take place unless it is necessary and unless all practical steps have been taken – without success – to help the person make the relevant decision themselves. In addition, any act done or decision made under the Act must be done in a way that minimises restrictions on the person's rights and freedoms of action and gives effect, as much as possible, to the past and present will and preference of the person.*

To date there is no specific guidance in the Act in relation to consent for research or quality improvement activity. Researchers and clinicians are therefore reliant on best practice international research standards for consent form organizations such as the Alzheimer's Society and Marie Curie Trust to inform patient recruitment. The Alzheimer's Society outline recruitments guidelines specific to people with dementia. This considers recruitment of those with limited cognitive ability and provides formal guidance in terms of proxies, rewards, risk management, safeguarding, confidentiality and anonymity, and cultural sensitivity and awareness (Alzheimer's Society 2020).

In Ireland, there is no central ethics governing committee and ultimately it is the local ethics committee that guide practice on the ethical recruitment of patients with dementia into research. Considering these points, we sough ethical approval which was granted from the CREC (ECM4 aa 04/12/18). We then communicated our approval with all relevant stake holders in terms of access to students, hospitals and care of the elderly wards. Ethical approval and relevant study material such as patient information and consent are included in the appendix (appendix 1.19).

3.9.6 Patient consent

According to the HSE Consent policy (2017)

> *Adults who lack decision making capacity must neither be unfairly excluded from the potential benefit of research participation, nor may their lack of capacity to consent be used to inappropriately include them in research*

In line with the above principles, in the sub-study involving observation of interactions between patients with dementia and students, we sought to provide patients with dementia an explanation of what we were doing and how it involved them. As per the local ethics committee guidance patient consent (where the person was deemed to have capacity) or proxy consent from family was required.

We designed a plain English and shortened information sheet for patients with dementia describing our study and what observation entailed from a patient perspective. In addition, we planned to obtain written consent from a family member who normally acted as 'Assisted Decision-Maker' (a family member or carer who assist the person with dementia to access information or to understand, make or express decisions about their welfare and property and affairs) to ensure the rights of the person with dementia were respected. We designed a family/career information leaflet in the case where patients did not have the capacity to provide consent, we obtained a proxy consent form from the patient's family. It could be argued that obtaining explicit proxy consent was not necessary in this study as our primary focus was students. However, there is no specific national guidance and patient or proxy family consent was part of the stipulation by the local ethics committee and thus this was the approach we used in this project.

To ensure patients with dementia did not experience distress during the non-participant observation, we developed a protocol in the event a person with dementia became upset due to the presence of the observers. In the event a patient became upset, the observers would suspend their observation, withdraw from the bay and informed the nurse in charge of the incident. Observation would only recommence if the patient gave his/her permission to allow the observers back into the clinical area.

3.9.7 Student recruitment and consent

There were a number of gate keepers to facilitate access to student nurses and the clinical sites. Once ethical approval was obtained, we requested access to students from the UCC School of Nursing and Midwifery, Head of School and Head of the Undergraduate programme. In terms of the clinical sites, we obtained the permission of the Director of Nursing (DON) in each site, the CPCs and ward managers to undertake observation and deliver the intervention as part of 'Prep week'.

As discussed within 3.9.2, the UCC undergraduate nursing student allocations granted access to relevant student university email addresses and eligible students were invited to participate. In the intervention group, eligible students were sent an email inviting them to participate in our study, the email included the study information sheet, consent form (appendix 1.10).

Students were also given a date and time to attend the dementia training session. This allowed student time to review the material and make a decision regarding study participation prior to the intervention day. Student written consent was collected at the beginning of each intervention and stored in a locked office of the student supervisor in UCC.

A similar email was sent to control group students without the invite to training. Email reminders were sent in addition to announcements in class and during scheduled intern prep weeks.

In line with General Data Protection Regulation (https://www.dataprotection.ie/en/legal/data-protection-legislation) , a number of steps were implemented to ensure data safety. Survey data was anonymized, and students were given a unique study number. The master file linking the student name with the student ID was stored in the supervisor's office and could only be accessed by the master's student or supervisor. The master file was destroyed at the end of data collection. Students were given the right to withdraw from the study at any given

time and informed that the study did not affect any component of their formal academic training or grades.

3.10 Data collection

We used three approaches to data collection: a) pre-post survey of all recruited students b) observation of the student's allocated to older adult wards and c) semi-structured interviews with intervention students. The purpose of the evaluation was to compare the differences between the intervention and control group. The pre-post control design consisted of data collection on two occasions from an intervention group who received the dementia training workshop plus clinical placement and a control group who received standard dementia education plus clinical placement.

3.10.1 Survey

The survey data collection was both electronic and manual. Data was collected at two times point from the control and intervention groups. Time one (T1) was pre-intervention prior to the training workshop and the start of clinical placement and Time two (T2) the end of clinical placement. All eligible students received a link to an electronic survey. A unique study number was allocated to each eligible student at the beginning of the study. This ensured that data could be paired at T1 and T2 and that intervention and control group students could be distinguished from one another. Students were asked to record their unique study number on their smartphone 'notes'. A record of student study numbers was also brought to each 'workshop' in the instance that students could not recall their unique study number.

The survey had three components a) demographic questions b) three case vignettes to examine student ability to identify person-centred responses and c) confidence in dementia management using the validated ' Sense of Dementia Competence' instrument. The survey was distributed electronically via email to all students in the control and intervention groups.

Students were sent three reminders via email to complete the survey. Students also received in class reminders during lectures in an attempt to boost recruitment.

Pre-placement survey distribution for both intervention and control groups began in January 2019 and ended in June 2019. Post Placement surveys were sent to students via email during their final week of placement and reminders were sent up to two weeks thereafter. All data collection was completed by 04/09/19.

3.10.2 Case vignettes

The purpose of the bespoke case vignettes was to examine student ability to identify person-centred responses. The three case vignettes had been previously designed by Naughton et al. (2018) based on the VERA framework (Blackhal et al., 2011) but had not undergone formal instrument testing.

To establish the reliability of the instrument we carried out a test re-test amongst third-year nursing students (n=30) not involved in the study. Students completed the case vignettes at two different time intervals with a two-week period between. This time frame allowed for students to remain unaffected by the administration of the first test but was still close in proximity that the exact group could be revisited (Kimberlin and Winterstein 2008). A pair-sample t-test indicated no statistically significant differences between scores, indicating the instrument was stable over time.

3.10.3 Sense of dementia confidence

Our questionnaire included the *'Sense of Dementia Confidence'* is a validated 17-item instrument used to measure dementia competence amongst healthcare professionals (Schepers et al. 2012). The original study conducted by Schepers et al. (2012) reported a Crombachs alpha of 0.93 which falls with the acceptable range between .70 and .95 (Tavakol and Dennick 2011).

3.10.4 Quality of Interaction Schedule (QUIS)

Non-participant observation was undertaken using the *Quality of Interaction Schedule* (QUIS). Non-participation observation is a highly credible form of data collection whereby the researchers observe the social system or ward culture to collect live data without participation. A protocol was outlined in the ethics application which states that the observer does not interfere with any aspects of patient care unless in the case of an emergency whereby within normal non-clinical conditions a person would provide help or assistance. An example of this is if a patient was about to fall without any clinical staff member available to assist the patient.

The QUIS instrument is a validated tool used to measure and record the quality of interaction between patients and healthcare professionals. It was originally developed for the long-term care setting (Dean 1993) but has since been used in the acute sector (Mclean 2017). It categorises interaction into positive, neutral or negative encounters. Since original development in (1993), its feasibility has been tested in several studies (Proctor et al., 1998, McLean et al., 2017) and overall reports on instrument stability are positive. The instrument was adapted to take account of our study intervention (Table 3.7)

Table 3.8 QUIS (McLean et al 2017)

Time Start Finish time	Pt ID	Context: event/circumstance of the interaction e.g. drugs round, mealtime	Details of interaction: who present,	Who initiated 1st contact? Staff =1 Std nurse= 2 Patient =3	Verbal /Non - verbal	VERA Validation Emotion Reassurance Activity or Not evident	One way Two way	Rate Positive Neutral Negative protective Negative dismissive	Observer Agreement

We used positive, neutral and negative (protective/dismissive) categories to determine each interaction (Mclean 2017). We then adapted the tool by adding a study specific column to determine if elements of VERA (Validation, emotion, reassurance or action) were present, or absent during the interaction. Two observers tested the instruments (CN and AS) to establish the inter-rater reliability. This involved both observers visiting an observation site and trailing the tool. The proposed process of a two-hour observation was mimicked and data was collected and recorded on sheets using the adopted QUIS (table 3.7). Data was recorded on staff nurses with their consent to trial the instrument, as student were not on placement at this particular time. Names or identification of any form was not recorded, as the sole purpose was to test the usability of the instrument and the ability of the researchers to use it.

Following the observation, data between the two observers were compared, and following a discussion the decision was made to subdivide the positive and negative categories (Table 3.8) to include positive social, and positive task interactions and negative protective, negative dismissive categories as described adopted by McLean et al. (2017).

Data collected by the two observers was then compared to test the inter-rater reliability with an absolute agreement of 70% between the two observers which was similar to McLean et al. (2017).

Table 3.9 QUIS observation Criteria

Positive Social	is socialisation beyond solely completing the task at hand in a positive manor, the student should portray evidence of enthusiasm/interest/conversation beyond baseline requirement to complete the task
Positive Task	is positive socialisation occurring during the period of time necessary to complete the task at hand/outstanding task
Neutral	Neither undermine nor enhance people.
Negative Protective	Lacks warmth or respect, insensitive and can be disempowering with the objective of patient protection.
Negative Dismissive	Lacks warmth or respect, insensitive and can be disempowering without a patient protection aspect.

3.10.5 Student observations using QUIS

Student observations were undertaken in the intervention and control site older adult wards. These observations were solely focused on student interaction and no other member of staff or aspect of clinical care was observed as part of this study. Our observation was based on the quality of communication between our intervention and control group and the patient with dementia using the QUIS observation table (Table 3.7). Periods of non-participant observations were two hours in duration and were sanctioned by the ward managers to ensure minimal disruption to ward activity. Before commenting observation, the observer informed all staff of the observation activity including students.

Observations included mealtimes, morning activity (excluding personal care) afternoons and evenings. Observations were not carried out at night but did take place at different periods of the day. When curtains were pulled around a patient in an observational site the observer remained outside the curtain to ensure patient privacy and dignity was respected. Verbal communication could be recorded at this time.

A protocol for managing patient distressed behaviour that may be attributed to the observation was prepared and approved as part of the ethics review.

We worked with practice development coordinators from each of our designated wards and dementia specialist nurses to develop the study design and receive feedback on our proposal. Clinical practice coordinators were available to assist students with any questions or uncertainties regarding the study design.

Before commencing each observation, the observer introduced herself to each patients in the room and provided a study information sheet. When possible, patients provided informed consent or verbal assent, where patients were deemed to lack capacity to provide consent, a family member was asked to provide proxy consent.

Resources did not allow blinding of the observer, but we planned to undertake a number of paired observations with an observer blinded to the intervention to confirm inter-rater reliability. However, due to difficulties in predicting when students would be allocated to the 'dementia bays' it was not possible to co-ordinate schedules with an independent observer.

3.10.6 Student interview

The third element of data collection involved student interviews whereby intervention students were asked to partake in focus group or one to one interviews guided by an interview schedule once their placements were completed (appendix 4.15). Intervention students were asked specifically about using VERA in the clinical setting and barriers and facilitators to its operationalization. Students were asked to consent to audio recording, once approved this was explicitly re-stated and granted at the beginning of each recording. Interviews were recorded using encrypted dictaphone and later transcribed. All recording materials and transcriptions were deleted after the analysis was complete.

3.11 Data Analysis

Quantitative data from the student survey and observation were analysed using descriptive and inferential statistics while data from focus interviews and intervention feedback were input into NVIVO for thematic analysis (Braun and Clarke 2006). Our intention was to undertake paired analysis whereby data on the same participants collected at T1 and T2 to compare the difference between the intervention and control group adjusting for any baseline difference. As a feasibility study, the sample size was small and not powered for full statistical analysis.

3.11.1 Quantitative data analysis plan

Step 1: Data from the pre-post survey and QUIS observation data were entered into SPSS (v25). Data for categorical variables were coded (allocated a number), e.g. male=1, female=2.

Data checking and cleaning was carried using frequencies (e.g. checking for outliers, mistakes in data entry).

In instruments such as the Sense of Dementia competencies, where items were missed we summed the scores across the available items for the individual, calculated the average and inserted the average score into the missing item (Pallant 2016).

We checked for normal distribution curve for continuous data such as age and scores from the Sense of Dementia Competence. Due to the small sample size these assumptions were violated for some variables, however, when the mean and median values were similar we reported the mean values and SD.

Step 2: Descriptive statistics.

In the univariate analysis, for continuous data we calculated the mean and standard deviation. To examine the variance in the data we also calculated the median, the interquartile range, minimum and maximum values. We have only reported the mean and SD in the results chapter. For categorical data we reported the proportion and percentage in each category. Data were presented in tables. For the QUIS instrument, data were coded as positive social, positive protective, neutral, negative protective and negative dismissive. Due to a small number of observations, we did not undertake between group comparisons.

Step 3 Inferential statistics

For the student survey data, a number of statistical tests were used to compare data between the intervention and control group. Test of differences with p value <0.05 was accepted as statistically significant.

3.11.2 Chi-Squared

The chi-squared test was used to test the statistical differences between categorical data such as gender. The chi-square compares the difference between the observed frequencies and expected frequencies and tests the null hypothesis that there is no difference between the groups (any difference seen is due to random chance).

3.11.3 Independent t-test

To compare the control and the intervention group data the independent t-test was used. This parametric test examined the difference in the mean between the two groups once inference is made that the data within each group is normally distributed (Kim 2015). The independent t-test treats the control and intervention groups as completely separate, in order to test for statistically significant between groups. (any individual contributes data to just one group).

3.11.4 Repeat measured ANOVA

The repeat measured ANOVA test was used to measure a dependant variable at two or more time points (Rana et al., 2013). Difference between measures are calculated independent of each time point providing us with a larger sample to analyse than just our paired data group. In this study, ANOVA was used to compare the intervention and control group outcome measures (recognise PCC care opportunities and Sense of Dementia Competence) while adjusting for baseline data. The analysis can only include participants with linked data at T1 and T2.

We were conscious, that in small sample size there is a risk of type I statistical error (identifying a statistically significant difference where there is no difference due to chance) and type II error (failure to identify a significant difference where one exists due to lack of statistical power).

3.11.5 Crombachs Alpha

The test of Cronbach's alpha was used for the Sense of Dementia Competence instrument to tested the internal validity and consistency (Tavakol and Dennick 2011). It is an indicator of scale reliability and it is based on the number of instrument items and the average inter-correlation among the items. *The original study conducted by Schepers et al. (2012) reported a crombachs alpha of 0.93 which falls within the acceptable value for crombachs alpha ranges from .70 to 0.95 (Tavakol and Dennick 2011).*

3.11.6 Thematic analysis

Data from the qualitative interviews were imported into NIVO to support thematic analysis. Braun and Clarke (2006, p6) states '*thematic analysis is a method for identifying, analysing, and reporting patterns (themes) within data… and interprets various aspects of the research topic'*. Thematic analysis is a widely used method of qualitative data analysis which uses coding to identify 'emerging themes' within the data to identified patterned responses (Braun and Clarke 2006, 2018).

Braun and Clarke (2006) outline a six step framework to guide the novice researcher:

Phase I Transcription of verbal data: This exercise involves transcribing the oral interview into text using verbatim transcription (exact words used by speaker). For a novice researcher this can be a very important step in becoming familiar with the data and requires careful listening to the interview. It allows the research to become familiar with the data from the outset.

Phase 2: generating initial codes: involves reading and re-reading of the interview scripts and assigning a code to "the most basic segment, or element, of the raw data or information that can be assessed in a meaningful way regarding the phenomenon'' (Braun and Clarke 2006).

Phase 3: searching for themes: This phase begins as soon as all data has been coded within the data sets and analysis begins.

Phase 4: reviewing themes: Once themes have been identified from the search the reviewing or refining process begins whereby the reader also develops a sense of major or minor themes.

Phase 5: defining and naming themes: Using the major and minor themes identified from phase four, themes are ultimately defined and named to deliver a 'consist and coherent internal account' of each subject.

Phase 6: producing the report examining where your themes: The final phase is where the analysis is demonstrated using extracts of data or examples capturing the essence of the themes.

3.12 Conclusion

The chapter describes a feasibility study that concentrated on the development of a novel intervention which aimed to improve undergraduate nurses' dementia communication skills. The intervention involved adapting a dementia communication workshop based on the VERA framework and testing its delivery and acceptability among student nurses. The feasibility study also examined elements of the evaluation strategy using a pre-post quasi-experimental design to inform a decision on whether a randomised control design was possible to test the intervention. Feasibility studies are recommended as a first step in intervention design and should precede pilot studies and RCT where there is a is a high degree of uncertainty around both the intervention and the evaluation.

The intervention was modified for an Irish undergraduate nurse cohort using the COM-B model of behavioural change (Michie et al., 2013) and Robert Gagnes 9 events of instruction (Gagne 1992). The hypothesis underpinning the study was that students who receive the intervention would be better able to identify opportunities for person centred communication compared to control students (primary outcome). We tested the feasibility of recruiting and retaining a student study population, and data collection methods including non-participant observation using the QUIS tool to assess the quality of interaction between students and patients with dementia in acute care. Two acute care hospital were recruited to the study, hospital A was the intervention site and Hospital B the control site. Students allocated to medical and older adult wards were eligible for inclusion in the study. Data collection involved student survey, observation and qualitative interviews. A data analysis plan was

outlined using descriptive and inferential statistics for quantitative data and thematic analysis for qualitative data.

Chapter 4

4.1 Introduction

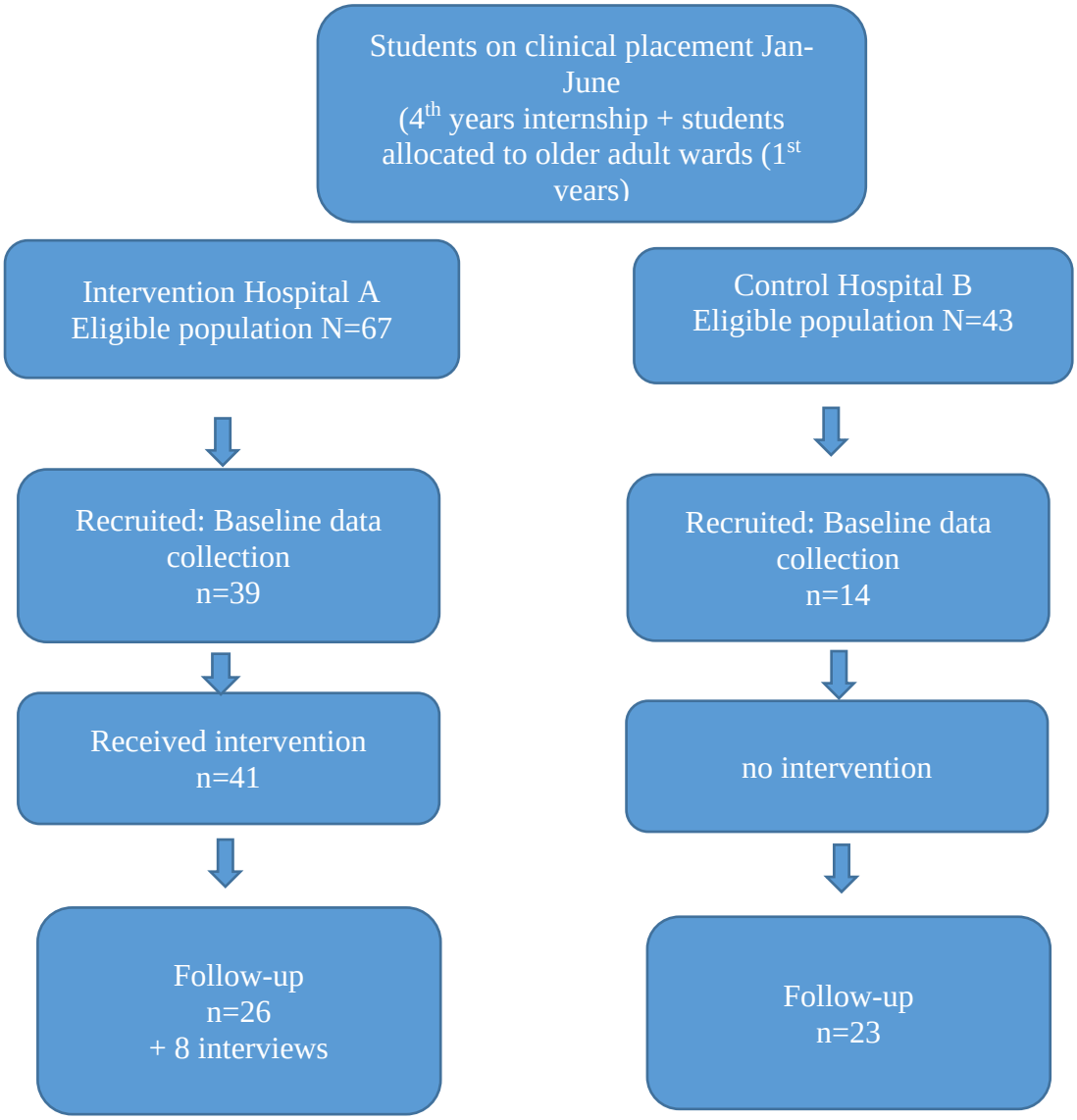
In this chapter I will present the results of the data analysis from the a) student survey b) student observations and c) semi-structured student interviews. I will present a synthesis of the data from the different sources and outline overarching observations based on the findings. Data is presented using graphs and tables. The limitations of the study deign and data collection are also discussed.

Two key issues tested in this feasibility study were the acceptability of the dementia communication intervention and the feasibility of undertaking a controlled trial design.

4.2 Study recruitment

Figure 4.1 provides an overview of the trial flow chart detailing the eligible population and recruitment of the participant in the intervention arm and control arm. In total there were potentially n=110 students eligible for recruitment to the study, i=67 in the intervention site (60.91%) and c= 43 on the control site (39.09%). At baseline, n=39 students were recruited to the intervention group (58.21%) and n=14 to the control group (32.56%). In total, n=41 students received the intervention (37.27%) and i=26 provided follow up data (23.64%). Semi-structured interviews were offered to all students who received the intervention (i=41) and a. total of n=8 were held (19.51%).

Figure 4.1 Trial flow chart



Once the study was completed we provided the dementia training to 18 participants in the control group. In the evaluation we collected baseline survey data from fifty-three participants, there were fourteen participants in the control group (CG) and thirty-nine participants in the intervention group (IG). In the post-intervention survey we collected information from forty-nine participants (IG=26 and CG=23). There were paired data (pre/post data) on 26 participants (IG=18, C=8).

Table 4.1 Student survey participation

	Intervention	**Control**	**Total**
Pre	39	14	53
Post	26	23	49
Paired	18	8	26

Originally students allocated to older-adult and medical wards in the two participating teaching hospitals were eligible for recruitment to the intervention and control groups. As previously discussed our available sample size was much smaller than anticipated and fell short of the numbers required in our sample size calculation. Initially, we identified twenty potentially eligible students that were allocated to the medical and older adult wards in both hospitals, thirteen students in the intervention site and seven in the control site.
During this period, the second and third year students were not allocated to the older adult wards and only 10 first-year students were eligible for recruitment. We delivered the intervention to three first-year who attended the training in their own time between their classes in university. After four months, we only managed to deliver the intervention to twelve students. When students were in university, their student timetables were already full and there was little opportunity for students to attend the 1.5-hour training workshop, while

during clinical placements, students were part of the ward workforce and it was difficult to negotiate time with ward managers to deliver the training.

In consultation with clinical placement coordinators (CPC), we negotiated to deliver the intervention to all fourth-year students as part of their scheduled preparation week 'prep week'. This increased the number of students who received the intervention to 59. This was not ideal, as the intervention was delivered to a large group and may have impacted on intervention fidelity (Section 4.4). Despite the large group teaching session, the intervention was well received and the feedback was mainly positive (Section 4.5 Student Feedback).

4.3 Intervention fidelity

Intervention fidelity is the degree to which the intervention is delivered as intended (Murphy and Gutman 2012). It considers the design of the intervention, training of facilitators, the delivery and receipt of intervention, and the enactment of skills obtained directly from the intervention (Gearing et al., 2011).

To account for fidelity two facilitators (CN and AS) were involved in the design of the intervention and delivered all the training sessions thus ensuring the core elements of the teaching sessions were consistent. Some of the background information giving on dementia was altered depending on the stage of the students programme. For example, first year students required an explanation on dementia, whilst with fourth-year students more time was spent discussing their previous experience of caring for people with dementia.

Delivering the intervention to a small group versus a large group also impacted fidelity. In the small group sessions, students were given more time to undergo nurse-patient role play with feedback from facilitators. In the large group sessions, students had less time allocated to student-nurse role-play and there was less 'one to one' feedback from facilitators.

Due to time constraints, the activity element of VERA was not emphasised as much in the larger groups. Instead, students discussed what type of activities they already used in the

ward to engage meaningfully with patients with dementia. Students contributed useful ideas and strategies, particularly those who had previously worked in care homes.

Despite the drawback from the large group size, the larger group brought greater energy and breadth of experience to the session. Although we had not intended to deliver large group sessions, the experience contributed to how the training can be adapted and delivered at scale to the larger student cohorts in the general nursing programme.

4.4 Acceptability of the intervention

Overall we delivered the dementia communication training to 59 students, the majority of participants were in their final year (Y=4). This included the intervention group (n=41) and the control group (n=18) who were offered the training after the data collection period was completed.

Immediately following the training, all students (n=59) provided anonymous feedback (Table 4.2). Feedback questionnaires consisted of five questions, two opened ended questions explored what students liked about the training and what they would change and three structured questions using a 5-point Likert scale examined students' perception of the VERA framework (appendix 4.13).

Students were asked to leave their feedback sheets facedown at the bottom of the class upon completion. We aimed to ensure that students felt empowered to voice their most honest opinion of the workshop anonymously. Facilitators felt that collecting forms around the room on a 1:1 basis could potentially sway the student's inclination to be critical with their feedback.

The vast majority of feedback was positive indicating a high degree of acceptability of the intervention. Ninety-seven percent of respondents (n=57) indicated they were likely or very likely to apply the dementia communication skills in their clinical placement. Over ninety percent of students were likely (n=23) or very likely (n=31) to recommend the training to

their peers. In contrast, only 59% felt they were likely or very likely to use additional on-line resources to augment their training.

Table 4.2 Quantitative intervention feedback

	Very unlikely	**Unlikely**	**Somewhat likely /maybe**	**Likely**	**Very likely**	**Total N=**	**Mean**	**SD**
Q3. How likely are you to try the communication techniques from the training?	2	0	0	7	50	59	4.75	.78
Q4. How likely are you to use additional on-line dementia communication resources	2	4	18	20	15	59	3.71	1.04
Q5. How likely are you to recommend the training to other students	2	1	2	23	31	59	4.4	.91

4.4.1 What students liked most

In the free texts comments students most frequently reported that they enjoyed the patient-scenario role plays (39.3%).

> *The acting scenario was very good' and 'it was very interesting training with real life scenarios and examples.*

Students (23%) felt the scenarios were realistic and reflected some of their experiences of caring for people with dementia '*The role play put the skills with real-life scenarios'*. This was perhaps a result of producing student-patient scenarios in response to student focus groups held while developing the intervention.

Students also commented on how the role-play created a link between the 'information giving' and operationalising the framework in clinical practice.

I liked how the roleplay put what we learned from the slides into how we approach patients with dementia.

4.4.2 Changes to improve training

Students also comments on how to improve the dementia communication workshop. 62% reported 'Nothing'. Some students suggested the inclusion of more patient scenarios (55%) or the possibility of using video to show the role-play or nurse-patient scenarios (30%). Students also suggested the training should be available to all ward staff and that it should be delivered earlier in their programme.

Following each delivery of the workshops, the facilitators (A.S, C.N) critically discussed the session and reviewed the feedback . The main modification was to reduce the background information on dementia in order to focus on communication and to include activities to promote active student participation e.g. students practiced using 'mirroring' and 'matching'. We nearly always ran out of time, thus 2 hours rather than 1.5 may be better, but we were constrained by pre-set timetables. The minor adjustments to intervention fidelity were noted in that fourth-year nursing students required less explanation on the physiology of 'dementia' whereas first years had little prior knowledge.

Table 4.3 Qualitative intervention feedback

	Themes Identified
Q1. What did you like about the training?	'Real-life patient scenarios' 'Learning about VERA' 'Interaction between speakers and audience' 'Role-play' 'Acting scenarios' 'Background facts and information' 'Use of both dementia communication theories validation and reality reorientation' 'Very informative and gives confidence through education'

Q2. What would you change/do differently to improve the training?	'Nothing' 'More patient-nurse scenarios' 'Possibility of video to show scenarios' 'Training should have been available to all wards' 'More of it' 'Teach at an earlier stage'

4.5 Feasibility of data collection

The purpose of a feasibility study is to test data collection strategies. All intervention and control students received a pre-post intervention survey. We used a combination of paper and electronic data collection methods. The initial intension was to use mainly electronic data collection but following low response rate in the baseline data collection we relied more on the paper survey for data collection. Students were given a paper copy of the student survey prior to the training workshop if they had not already completed the electronic version of the survey.

Students who attended the intervention were more likely to complete the baseline paper surveys (n=37) compared to the baseline electronic survey (n=16). Despite repeated electronic student reminders, it proved challenging to collect electronic student survey data. In order to boost our survey response rate, we gave paper surveys to students during their in-class student prep week (intervention and control). As a result, the overall post placement survey response was much higher using paper means (n=38) versus electronic (n=11).

Table 4.4 Survey response

	intervention	**control**	**total**
Pre paper surrey	28	9	37
Pre electronic survey	11	5	16
Post paper survey	17	21	38
Post electronic survey	9	2	11

4.6 Survey analysis

In total 110 students were sent an electronic/paper survey, of these 49 returned questionnaires, at T2 giving a response rate of 45%. We analysed the data in two ways. In the first analysis we used all the available data from the control and intervention groups (n=49). We compared the intervention and control group data using the independent t-test. While we examined baseline data for differences between the groups, we did not include this data in the model. In the second analysis, there were 26 participants with paired data (baseline and post-intervention surveys) and we used repeat measures ANOVA to adjust for baseline data in this analysis.

4.6.1 Demographic data

In the post-intervention data there were more female participants (n=47) than male (n=3), the average age was 24 years and the majority of participants were in fourth-year (n=41). This corresponds with the internship programme in Ireland whereby fourth-year internship students are allocated to the wards between January and September of each year, thus no second and third-year students were represented in the sample.

While the majority of students had experience with people living with dementia (n=45), 43% of students (n=20) had not received any formal dementia training. From the students that had received dementia training (n=25), 32% of this group (n=8) had received this training whilst working in an alternative healthcare setting such as part-time work in a nursing home.

Table 4.5 Demographic data

		Total	**intervention**		**control**		**Test of difference**
			N= 39	%	N=23	%	
Gender	Male	5	0	(0)	5	(22)	
	Female	42	26	(100)	18	(78)	p=0.2
Age	Mean (SD)		22	(5.9)	23	(3.2)	t=0.91 (df=51), p=0.37
Prog year	1	8	3		5		-
	2		0		0		
	3		0		0		
	4		23		18		
Previous experience dementia	Yes		2		16		

4.7 Person-centred care (PCC) response

Students' ability to identify person-centred responses (PCC) was the main outcome of interest in the survey which was measured using case vignettes. There were fifteen items in the case vignettes and answers were coded as 1= correct or 0= incorrect/missing. We looked at the individual items and the overall cumulative score across the fifteen items, the maximum possible score was fifteen (Table 4.6).

At baseline, the overall study population mean score for the case vignettes was 11.7 (SD=2.5), there was no significant difference between the intervention and control group (Table 4.5). In the post-intervention data, there was a significant difference in the case vignette scores, the intervention group had a mean score of 13.1 compared to the control group mean of 10.6, p=0.03.

The data indicates that students who received the intervention were more likely to identify opportunities for person-centred responses than the control group. The baseline data indicated that students in both groups had similar baseline knowledge scores and similar duration and type of clinical placement exposure thus, it is likely that the difference in the group case vignette scores can be attributed to the training.

Table 4.6 Person centred care responses

	Baseline				Post intervention			
PCC Case Vignettes	number	mean	SD	Mean difference	number	mean	SD	Mean difference
Intervention	39	11.59	2.7	0.48, 95% CI= -1.7-0.7, p=0.53	20	13.1	1.95	2.5, 95% CI= 0.9-4.03, p=0.03
Control	14	12.07	1.6		22	10.6	3.0	

4.7.1 Pattern of responses for case vignettes

Recognising and acknowledging a patients' emotion and accepting their reality has meaning is a legitimate aspect of nursing communication, as is encouraging a patients' independence and sense of autonomy. The case vignettes explored how students can implement specific communication skills to verbally give a patient control in a situation or to acknowledge a patient's emotion and explore unmet needs. Table 4.13 displays the pattern of the student responses for the individual case vignette items post-intervention.

The case vignette items 1,3, 4 and 11 are related to a student giving a patient a sense of control in care delivery. The remaining items test students' awareness to acknowledge a patients' emotional needs. The items that demonstrated the greatest difference between the control and the intervention group were items 4 and 5. In Item 4, the correct response option *'Mrs O'Connor, let me give you the washcloth so you can finish the wash yourself,: there is no need to rush'* is directly related to a patient's sense of control . In item 5, the correct

r*esponse option 'Caroline, I can see that you're upset, what is worrying you about the children?'* acknowledges the person's reality and emotional needs.

The items that demonstrated the highest percentage of correct responses in both groups were 7 *'Caroline, I can see you are restless, do you need to go to the toilet?'* and 10 *'You are upset Ali, your brother knows you are here. Would you like to ring him?'* Both of these items are related to acknowledging the persons with dementias emotion and unmet physical needs.

Table 4.7 Individual case vignette items

	Item	**Question**	**Intervention N=**	**%**	**Control N=**	**%**
1	CV1	Mrs O'Connor, I can see you are independent, I don't like strangers telling me what to do either, what would you like to do?	22	85	14	61
2	CV2	You are worried about becoming a burden on your family? How do your family help you at the moment?	24	92	16	70
3	CV3	Mrs O' Connor, can you help me pick out one of your nightdresses and your toiletries?	24	92	18	78
4	CV4	Mrs O'Connor, let me give you the wash cloth, so you can finish the wash yourself, there is no rush	23	89	13	56
5	CV5	Caroline, I can see you're upset. What's worrying you about the children	23	89	13	57
6	CV6	Caroline you're in hospital, you're safe mand there is nothing to worry about.	23	89	14	61
7	CV7	Caroline, I can see you are restless, do you need to go to the toilet?	23	88	20	87
8	CV8	I can see that you're scared Ali. Can you tell me what has upset you?	20	77	13	56
9	CV9	I understand you do not like being here, what can I do to help you?	20	77	14	61
10	CV10	You are upset Ali, your brother knows you are here. Would you like to ring him?	18	69	16	70
11	CV11	Ali, do you want to give yourself the insulin, like you do at home?	23	88	18	78
12	CV12	Oh Mary, I can see you are worried about Tom, is Tom your eldest Son, how does he normally help you	23	88	19	83

13	CV13	Mary, I can see you are upset and miss Paddy, Kate, your daughter has some photos, are there any photos of you with Paddy here?	25	96	17	74
14	CV14	Mary are you missing your family, are you feeling lonely? Do you want to come and sit with me for a while?	23	89	19	83
15	CV15	Mary, you sound upset, you are safe, I am here to help you? do you have pain in your arm [wait for response] do you need to go to the toilet [wait for response]	26	11	17	74

4.7.2 Sense of Dementia Competence

The second instrument used in the survey was the Sense of Dementia Competence (maximum possible score 68). This instrument explored student's perceived confidence when working with patients with dementia. The Crombachs Alpha was 0.92 indicating a high level of internal validity for the instrument.

At baseline, the mean population score was 49.4 (SD=8.8) and post intervention the overall population score was 52.4 (SD 7.7). At baseline there was no significant difference between the groups, following the intervention, the control group had slightly higher score (54.2) compared to the intervention group (50.8), but this did not reach significance (Table 4.7).

Table 4.8 Sense of Dementia Confidence survey pre-post data

	Baseline				**Post intervention**			
Sense of dementia competency	number	Mean	SD	Mean difference	number	mean	SD	Mean difference
Intervention	39	49.9	9.37	1.92, 95% CI= -3.6-4.7, p=.49	26	50.8	8.4	-3.3, 95% CI= -7.7-1.06, p=0.13
Control	14	48	7.1		23	54.2	6.7	

Looking at the individual items in the Sense of Dementia Competence, there were similar patterns between the groups in terms with the highest and lowest level of perceived competence. In both groups, the highest competence scores included item 7 '*Keep up a positive attitude towards the people you care for'* (m=3.3) and item 16 *'Offer choice to a person with dementia in everyday care (such as what to wear, or what to do)?'* (m=3.3). Four items received a mean score <3 in both groups indicating low levels of confidence. These items included item 1 '*Understand the feelings of a person with dementia,* item 2 *'Understand the way a person with dementia interacts with the people and things around them'* item 15 '*Offer stimulation (for the mind, the senses and the body) to a person with dementia in your daily work'*, and item 17 '*Engage a person with dementia in creative activities during your normal working day'*.

Overall students reported that they were more confident conducting tasks that were under their control such as item 12 *'Deal with personal care, such as incontinence in a person with dementia'* (I=3.3, C=3.8) or item 16 *'Offer a choice to a person with dementia in everyday care such as what to wear or what to do'* (I=3.3, C=3.3).

In contrast, students scored much lower in items that addressed fulfilling the psychological needs of a patient with dementia. This is evident within item 1 *'Understand the feelings of a person with dementia'* (I=2.77, C=2.73) and item 14*'Offer stimulation for the mind, senses and body to a person with dementia in your daily work'* (I=2.7, C=2.7).

The pattern in the scores suggested that students were more confident in providing task-focused care compared to psychological care or distraction activities. The data also suggested that clinical placement alone increased student's confidence as scores in both groups increased over time, but the intervention did not have an impact on students' confidence.

Table 4.9 Summary of Sense of Dementia Competence

	Intervention		Control	
Item	mean	SD	mean	SD
1.Understand the feelings of a person with dementia	2.77	.65	2.73	.72
2. Understand the way a person with dementia interacts with the people and things around them	2.7	.68	2.7	.67
3. Engage a person with dementia in a conversation	2.96	.66	3.0	.53
4. Balance the needs of the person with dementia with their relative's wishes and the service limitations	2.73	.78	2.7	.78
5. Use information about their past (such as what they used to do and their interests), when talking to a person with dementia	3.23	.71	3.3	.6
6. Change your work to match the changing needs of a person with dementia	3.0	.8	2.96	.72
7. Keep up a positive attitude towards the people you care for?	3.3	.6	3.3	.63
8. Keep up a positive attitude towards the relatives of a person with dementia	3.2	.7	3.5	.6
9. Keep yourself motivated during a working day	2.9	.7	3.4	.6
10. Play an active role in the nursing staff team	3.3	.53	3.6	.6
11. Protect the dignity of a person with dementia in your work?	3.3	.6	3.9	.3
12. Deal with personal care, such as incontinence in a person with dementia	3.3	.55	3.8	.37
13. Deal with behaviour that challenges in a person with dementia?	2.8	.83	3.2	.8
14. Decide what to do about risk (such as harm to self or others) in a person with dementia	2.8	.8	2.9	.74
15. Offer stimulation (for the mind, the senses and the body) to a person with dementia in your daily work?	2.7	.72	2.7	.93
16. Offer choice to a person with dementia in everyday care (such as what to wear, or what to do)?	3.3	.62	3.3	.7
17. Engage a person with dementia in creative activities during your normal working day?	2.9	.71	2.9	.95

4.8 Summary of survey findings

In the larger sample (utilising all the survey data) the profiles of the intervention and control group were similar, but the size of the groups were unequal (CG n=14, IG n=23). Post intervention, there was a small significant difference in participants' ability to identify person-centred responses in the intervention compared to the control group. There was no difference between the groups in their Sense of Dementia Competence. A limitation of this analysis is that not all participants contributed data at the both time points, thus any observed differences may be due to this variation.

4.9 Paired Data analysis

In the second analysis, data was restricted to participants with paired data. There were twenty-six participants with paired pre-post data, eighteen participants in the intervention group, and eight participants in the control group. The demographic profile of the groups was similar. There was a majority of females in both groups and the mean age of the intervention group was 24 years (SD=6.9) and 22 years in the control group (SD= 2.8).

Table 4.10 Paired data descriptive statistics

Descriptive Statistics

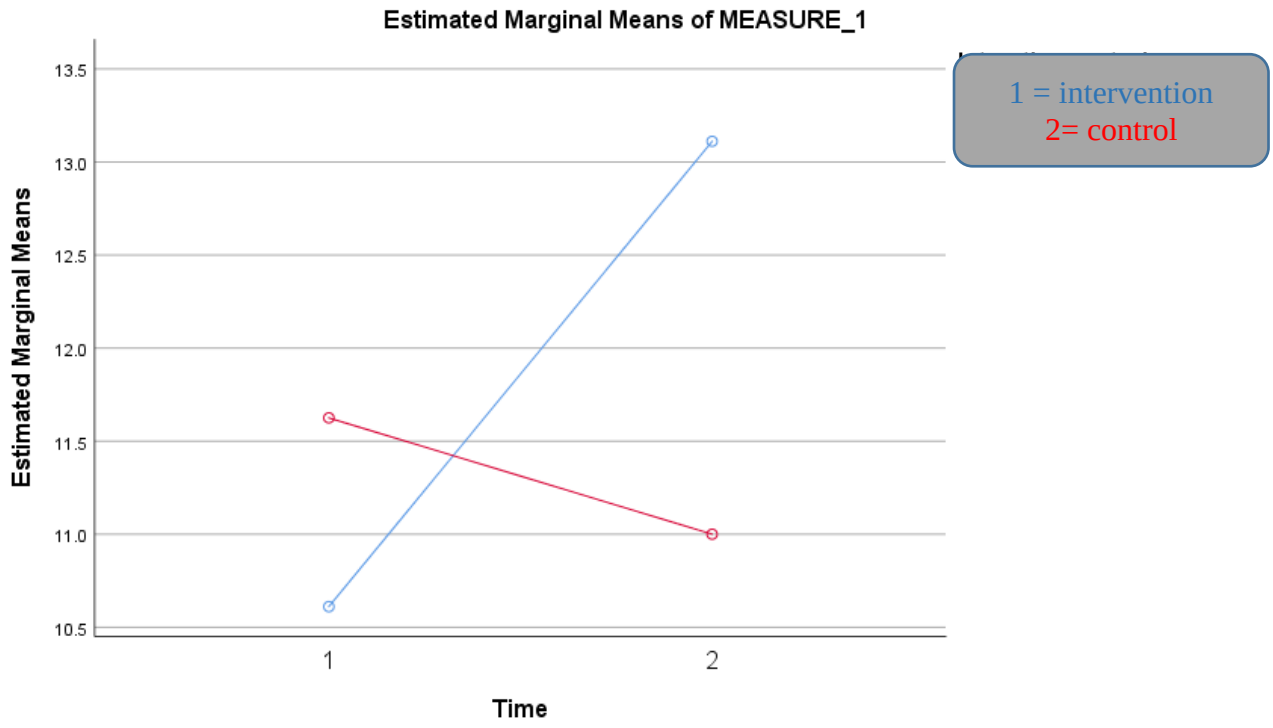
Instrument	Intervention=1-control=2	Mean	Std. Deviation	N
PCC Response baseline (case vignettes)	1	10.61	3.274	18
	2	11.63	1.685	8
	Total	10.92	2.883	26
PCC Response post (case vignettes)	1	13.11	1.937	18
	2	11.00	4.000	8
	Total	12.46	2.832	26

The correct statistical analysis must be used when analysing the data. In this study we used the repeat measures ANOVA, to examine the difference in means between the control and intervention groups. Although our sample was not fully powered, repeat measures ANOVA is

the correct statistical analysis to run for this study as it measures shared variability between two time points (Park et al., 2009).

For our sample, data was not normally distributed due to the small sample size, this violates one of the assumptions for the repeat measures ANOVA. Accepting this limitation, we undertook the analysis in the primary outcome PCC response (case vignettes) as the purpose of this feasibility study was to run the statistics as intended for that of a full-powered trial. Baseline data indicated similar mean scores at (Table 4.5). Post intervention, there were slightly higher PCC scores in favour of the intervention group (IG=13.1, vs CG=11.0). The test of within-subject contrasts indicated that the interaction between time and intervention was not significant (F=3.86, p=0.06), within the groups the intervention did not have a significant impact.

Fig 4.2 Estimated mean of measure 1 (time) person-centred responses

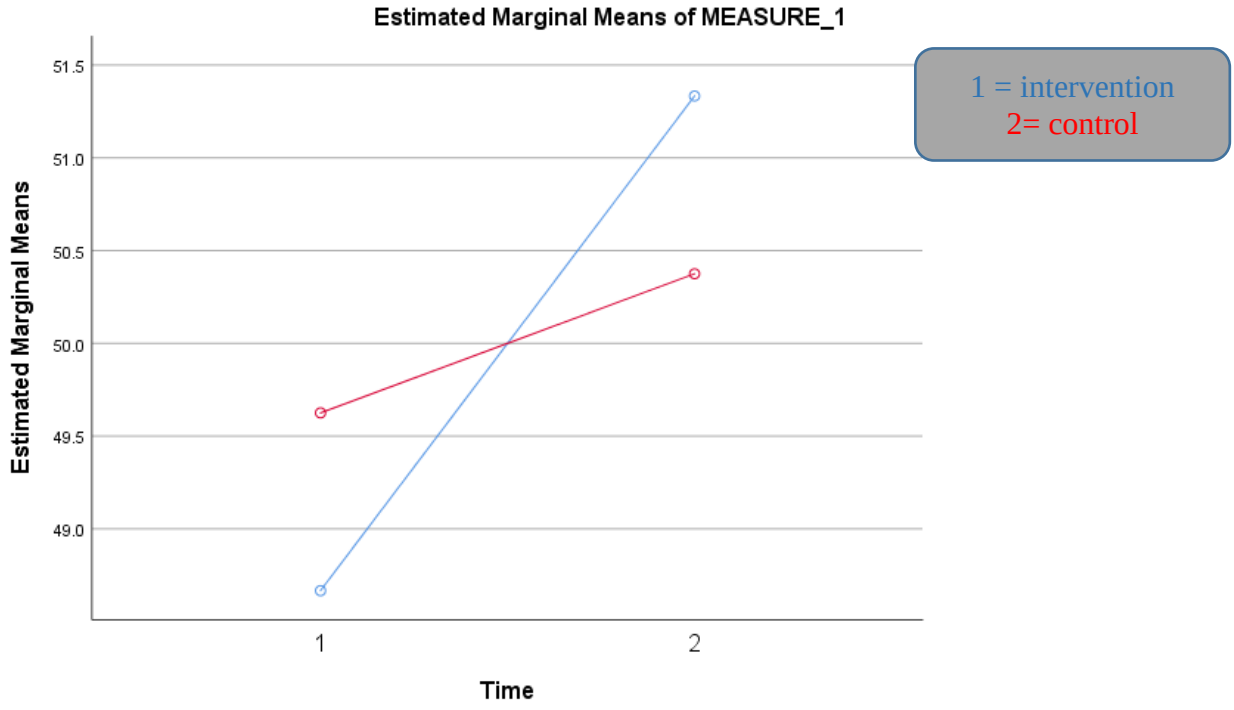


The test of between subjects indicated that there was no significant different between the control and intervention group, adjusting for baseline data (F=0.38, p=0.5), however the sample is not powered to detect a difference (Type II error).

Partial eta squared =0.016 was calculated as a measure of effect. Normal ranges for the partial eta squared are small (0.1), medium (0.3), and large (0.5) effect. Our results indicated that the intervention effect was very small. We used partial eta squared as oppose to eta squared because the data was two-way factorial therefore partial eta squared is the preferred method of measuring effect (Kim 2016).

A similar non-significant difference was also seen in the Sense of Dementia Competence, the test of within -subjects contrast (F=0.14, p= 0.71) and between subjects demonstrated that there was no significant difference between intervention and control group (F=0, p=1, Partial eta =0). The graph displays there was a small increase in the Sense of Dementia Competence scores from baseline over the course of the clinical placements in both groups.

Fig 4.3 Estimated mean of measure 1 (time) Sense of Dementia Competence



4.10 Comparison of the paired and unpaired datasets

In the larger data, with data from all subjects (n=49) and using the independent t-test, we found a significant difference between the intervention and control group following the dementia training. This difference was in the students' ability to identify patient-centred responses (case vignettes), there was no impact on sense of dementia competence. In the smaller sample of paired data (n=26) while there was a slight increase in PCC response scores in the intervention group compared to the control group, the repeat measures analysis indicated there was no significant difference between groups. However, this sample size was underpowered to detect a statistically significant difference. The discrepancy between the two tests suggests that any significant difference should be interpreted with caution.

4.11 Observation of student patient interactions

A limitation of the survey data was that it relies on student self-report. This mirrored the vast majority of international literature in this area where there is a lack of objective testing for dementia communication interventions. In order to determine if our intervention had an impact on student behaviour, we tested the feasibility of using non-participant observation to examine the quality of the interaction (using the QUIS tool) between students and patients with dementia during their clinical placement. There were five possible categories: positive (social or task), neutral, negative (protective, dismissive) (Table 3.7).

Eleven observational sessions (n=11) were undertaken with six students, this accounted for twenty-two clinical hours of observation. Observation periods lasted for 2 hours at a time. A total of seven observations involving four students were undertaken in the intervention site and four observations with two students in the control site.

4.11.1 Ward environment

We carried out observations on two older adult wards in our study. In the control site, it was a specialist dementia (25 bed) ward. The ward contained dementia-friendly elements such as different colour and symbols to help patients identify their bed space. The floor plan was

open and corridors were clear to allow patients to mobilize safely. The main door was swipe access which allowed patients to mobilize around the ward safely. All members of staff including non-healthcare support staff (catering, cleaning, maintenance) were aware of the purpose of the ward. This local awareness further contributed to the safety of patients as staff were trained to take care when accessing the ward, for example, not to hold the door open for an inpatient or to leave the door open unattended when transporting stock in and out.

on the intervention site, we used a 32 bed acute older adult medical unit with a six bedded room predominantly used for people with dementia or those who are confused. This ward contained five observational beds, which were situated next to the designated dementia room. Given the nature of these observational beds, it was an extremely loud and busy setting. Corridors tended to be busy with different medical teams and cluttered with equipment. This made it difficult for patients to mobilise along the corridor using the side rails. The ward had no secure access and two open double doors at either end of the corridor, so patients were not allowed to mobilise freely due to a high risk of leaving the ward. It was also difficult to find as all rooms were identical and there is very limited signage.

4.11.2 Sample

Out of the four students observed on the intervention site, three students were final (fourth) year students and one student was a first-year nurse. All of the students observed had received the intervention and completed the questionnaires. In the control site, both students observed were final year students who had not received the intervention.

Table 4.11 Student observations

	Intervention	Control
Student Observed	4	2
Student Year	n=3 fourth year students N=1 first year students	N=2 fourth year students
Number of observation periods	7	4
Number of interactions coded	120	99

4.11.3 QUIS categories

The total number of student-patient interactions observed were 219 (I=120, C=99). The sample size was too small for statistical analysis of difference, we have presented descriptive statistics. The most frequent interaction in the intervention site was positive task (40%), followed by neutral (32%) and positive social (27%). There was only one negative protective interaction (1%) and no negative dismissive interactions were observed in the intervention site.

The most common interaction in the control site was neutral (45%), followed by positive social (32%) and positive task (22%). Similar to the intervention group, there was only one negative protective interaction observed (1%) and no negative dismissive interactions.

Table 4.12 Results of student observations using the QUIS

	Total (n=)	**Intervention**		**control**		**Difference (N=)**
		n	%	n	%	
Positive social	63	31	27%	32	32%	1
Positive task	70	48	40%	22	22%	26
Neutral	84	38	32%	46	45%	8
Negative protective	2	1	1%	1	1%	0
Negative dismissive	0	0	0	0	0	0
total	219	120	-	99	-	-

4.11.4 Positive social

An example of a positive social interaction was a student was present in the room when a patient was calling out. The student walked over to the patient's bed space and asked if the patient was ok. The patient did not have a physical need but the nurse spoke socially to the patient and offered him a shave. The patient was extremely happy with this and the student continued to socially interact with the patient whilst undertaking this task. While this interaction could have been coded as a social task, the balance was on the social exchange and conversation between the student and patient. The patient did not necessarily need a task to be carried out and did not request a shave. The student offered the patient a shave as a means of continuing the social interaction and providing 1:1 care for the patient to fulfil an emotional/social need (14;56 06/02/19).

4.11.5 Neutral

A neutral interaction is categories as an interaction whereby the interaction is neither undermining nor enhancing to the person with dementia. A large number of student-patient interactions were categorised as neutral (n=86), within the intervention (n=39) and control site (n=47). Two examples of neutral interactions include a) a student entering the room for paperwork, not interacting with anyone and leaving the room and b) a student emptying a catheter, completing the fluid balance chart and then leaving the room without acknowledging or engaging with the patient.

4.11.6 Negative protective

Although there were no examples of a negative dismissive interaction observed, there were two negative protective observations recorded. One observation was of a student standing over a patient while the patient was eating. The student was using quite protective body language and by standing over the patient they did not allow space for the patient to move if desired to do so. There was no verbal communication or interaction as the student directly monitored the patient (09/01/19).

Another example of a negative protective interaction observed involved a student assisting a patient on a commode and leaving the room. The student returned and checked the patient on the commode. The student did not verbally communicate with the patient throughout the entire task. The student did not ask the patient if he/she needed assistance and did not provide instruction or guidance to the patient. Overall this was a negative interaction.

4.11.7 Observations on ward context

During the student observations, it was also noted how busy students were on the wards and the magnitude of tasks and patient and staff interactions students were engaged with during the short observational period. Staff shortages were evident and none of the observations included students working with their preceptor or mentor. While some students attempted to utilize patient's personal items to communicate such as looking at family pictures or the newspaper. It was clear that there was a lack of distraction material, equipment, and facilities for students or patients to avail. Even where patients had personal items (e.g. photos) there was little value placed on psychological and social interactions as a therapeutic intervention.

In the intervention site patients were monitored by a healthcare assistant (HCA) or "special" at all times. This is a resource that could also be used in a more meaningful way. Whilst these HCA's were not directly recorded, it was obvious to the facilitator (AS) that some HCAs were much more comfortable interacting with patients than others. Some HCA did use elements of VERA and reality reorientation, perhaps without formal training.

4.11.8 Feasibility of participant observation in the acute care setting

The QUIS tool was feasible to use in this context, it was very useful in capturing and categorising the various interactions. The layout was clear and with practice it became easy to score the interactions quickly. There was a learning curve in interpreting the tool and consistently applying the tool. Interaction categories could be particularly difficult to

determine at the beginning of observations, but it was clearer and easier to score as the facilitators grew more familiar with the criteria.

Interactions can be dynamic and it was difficult to account for tasks that began as a 'positive task' but where lots of social elements were present as the interaction progressed. Going forward, this type of interaction should be better accounted for in the criteria or as a score given every two minutes. This would allow for more nuanced variation to be detected rather than a single score per interaction.

While using the QUIS tool itself in the acute setting was feasible, there were several logistical challenges in organising the observation sessions which contributed to the small number of observations carried out on both sites. These will be outlined below.

4.11.9 Student acceptance

All students signed informed consent to participate in the observation. Anonymity was confirmed and no student identifying information was recorded such as age or gender.

Although all students agreed to participate in the observations, it was evident that some students were much more comfortable with being observed than others.

4.11.10 Student allocated to dementia bay

Observations were only carried out on the older adult wards, each ward has a specific bay allocated to patients with dementia to facilitate patient 'cohorting'. We intended to undertake observation in these bays rather than shadowing students. Each morning both staff nurses and student nurses are allocated to a set number of patient bays. Student nurses were infrequently allocated to the dementia bay and even when allocations were pre-planned with ward managers this often changed. The impact of this on our study was evident, in that observer visited the ward on 22 occasions in order to obtain eleven observations.

4.11.11 Staff acceptance

Although staff were not involved in the observation it was obvious to the researcher that there was a level of anxiety among some staff and on occasion, a reluctance to allow the

observations to take place. On one ward the facilitator was known to staff which made observations easier in terms of staff acceptability and understanding of the study. Staff on the other site were more uncomfortable with the observations. This may have been a result of a lack of briefing by the research team and ward manager.

4.12 Obtaining consent from people with dementia

Study participation information sheets were designed specifically for people with dementia and featured large font and 'Plain English' language. Family or carer study participation information sheets were also developed to explain the study. Although families and patients with dementia were happy to give implicit verbal consent for the observation, both patients and families were reluctant to give written consent. Families were unsure as to who within the family was best placed to consent to the study. Often the specific person nominated by the family to provide consent on behalf of the patient was not present which excluded the person from the observation. In the acute care setting patients were discharged quickly and there was not insufficient time to build trust between the researcher and the family. The researcher was also not employed full time on the study which also impacted on the ability to undertake observations.

In summary, using the QUIS tool was feasible in the acute care setting however, the logistics of organising and undertaking observations may not be feasible on a large scale without extensive resources. The issue of obtaining consent from patients with dementia and families will be further discussed in chapter five.

4.13 Semi-structured student interviews

In addition to the quantitative data, we conducted student semi-structured interviews to gain greater insight into students' experiences of operationalising VERA during their clinical placement.

The aim of the qualitative interview was to explore if and how students used the VERA framework during their clinical placements and how the clinical environment influenced how they communicated with people with dementia. As part of the feasibility design we were testing the interview schedule and questions to inform further research. Using descriptive thematic analysis we coded the data into minor and major themes.

4.13.1 Recruitment

All students who received the intervention were contacted by the master's student (A.S) via student email and invited to participate in the student semi-structured interview. From a sample size of forty-nine eligible students, eight students volunteered to participate (16%). One to one interviews were conducted either in person or via telephone and thematic analysis was undertaken. Following transcription, the eight interviews (n=8) were uploaded to NVIVO and coded by the master's student, codes were discussed with the supervisor and refined.

The first interview was conducted by both the supervisor and master's student together. The following interviews were conducted by the master's student alone. Students provided written consent for their participation in the study but prior to the interviews students confirmed they were willing to participate. Obtaining ongoing consent during the study is regarded as best practice (Gupta 2013). All interviews were recorded on an encrypted dictaphone and scripts were anonymised. All interviews lasted between twenty and thirty minutes. Students were reminded that their participation in the study did not have any effect on their academic grades.

4.13.2 Primary and secondary themes

From the eight student semi-structured interviews, we identified three major themes: Prior experience, VERA as an alternative approach, and the impoverished care environment. I will explore each of these themes and their sub-themes in more detail below.

Table 4.13 Themes identified

Primary Theme	Sub-theme
4.14.1 Prior experience	4.14.1.1 Building Confidence 4.14.1.2 Learn as you go
4.14.2 VERA as a blended approach	4.14.2.1Mix and Matching 4.14.2.2 Relevance of VERA
4.14.3 Impoverished care environment	4.14.3.1Lack of time 4.14.3.2 Staff knowledge and ward practices

4.14.1 Theme One: Prior Experience

Students most frequently identified the advantage of having previous experience or exposure to people with dementia before commencing their older adult placement. Five of the eight students had prior experience of caring for someone with dementia (63%) from working in nursing homes (n=4) or as an informal carer (n=1). Two sub-themes were identified: 'Building Confidence' and 'Learn as you go'

4.14.1.1 Building Confidence

Having prior experience was seen as an advantage and students described how having previous experience with people living with dementia gave them confidence in building the nurse-patient-relationship.

> *Having previous experience, I find the nurse-patient relationship is a bit easier to build. Even introducing yourself to the patient I suppose.*
>
> *Having four grandparents, I had lots of experience of dealing with elderly people (interview one).*

All students who had previous experience of working with people with dementia regarded the experience in a positive manner. Students felt this experience or caring for a relative with dementia heightened their interest in dementia care and the quality of care delivered.

Because I had a family member with dementia, I felt very strongly about the quality of care that I would be giving and that they would be receiving (interview eight).

In contrast, students with no prior exposure to patients with dementia felt more apprehensive working with this patient group.

I never had any experience with patients with dementia, so you feel a bit kind of…I wouldn't say scared but a bit like kind of concerned. Because you don't know kind of like, if you will be able to manage them properly (interview four).

Similarly, a student with no prior experience perceived her peers as being more confident as a result of their working in care homes.

I know some of my year worked in nursing homes and I think that benefited them a lot because they did that. More experience would have been helpful (interview four).

4.14.1.2 Learn as you go

Students also made reference to learning how to interact and communicate with patients with dementia as 'ad-hoc' learning experiences. Students described their learning experience on placement as a '*learn as you go' (interview one)* whereby emersion in the clinical environment provided opportunistic interactions for learning but with little preparation *'I suppose on the job, that's when you really learn about it*' (interview seven). There was no mention of learning from staff or role modelling good behaviour during any of the interviews or student observations.

4.14.2 VERA as a blended approach

Students explored how they used the VERA framework within their practise and described using VERA as a blended approach and that it was a 'good' method of communication. Students did not use the VERA framework as a stand-alone or rigid format. Following the training, students took core elements from VERA and blended them with other existing frameworks or strategies. Two sub-themes are described as 'Mix and Matching' and 'Relevance of VERA'

4.14.2.1 Mix and Matching

Students did not apply the VERA framework in a rigid systematic manner, instead, students used components of the framework and merged it with other communication strategies. One student referred to the SOLEIR framework and using it in conjunction with VERA. This student also described how he acknowledged a patient's emotional state using VERA framework in conjunction with reality reorientation.

> *Like I said I use the SOLEIR and if that doesn't work I use VERA as a backup plan with my words to communicate with them.*
>
> *So you know, I had to acknowledge the emotion that she was scared and I had to explain to why she was here and what she presented with*
>
> *Every now and then I had to re-orientate her back to where she was, that kind of way (interview two).*

While some students described acknowledging patient emotion and reassurance elements of VERA, acknowledging the person's reality was not mentioned. Students largely used reality reorientation their main strategy. This is the traditional communication approach used in acute services and it is a default strategy for students in this setting.

Students also recognised the importance of spending time with patients and it was one of the main strategies that students used to connect with patients.

> *I always think like, you can push away aside time for people because ideally that's what you would love to be able to do. They may or may not remember that they have spoken to you but at least for that time I feel they are a bit more comfortable or something.*
>
> *It's kind of helpful to sit down with them for a bit and just talk to them about different things (interview one).*

4.14.2.2 Relevance of VERA

There was a consensus among students that they would have benefited from the training earlier in their four-year programme, ideally receiving the training in the first or second year of the nursing course.

> *Oh first year definitely. I think first year because it's probably the most difficult time to communicate with patients when it is something you have never done before (interview one).*

Receiving the training earlier could have helped students examine the principle of 'validating a person's reality' versus 'lying' to a patient. Prior to the training, students were concerned about the tension between 'going along with a patient' versus 'telling lies' or 'making promises they could not keep' as a means of settling a person.

> *Not exactly lying but, you know what I mean'. Now I understand that engaging in the conversation or going along with them can actually help a lot and I didn't think of that before (interview four).*

Students also suggested that dementia communication training may benefit other members of the multidisciplinary team such as nurses, physiotherapists, healthcare assistants, and doctors.

> *I think all members of the multidisciplinary team would benefit from it because you know medical teams can sometimes find it difficult to communicate with patients that may not have the capacity to hold the conversation. And physiotherapists, who are usually quite good at communicating. It would be affective for all members really (interview one).*

4.14.3 Impoverished care environment.

Students recounted the challenges of supporting patients in the acute care environment. There were both environmental and staff factors that contributed to clinical environments that were poorly equipped to meet the needs of people with dementia. Such factors included lack of time to spend with patients due to large workload and understaffing, poor ward structures,

lack of facilities available to patients with dementia, and poor levels of staff knowledge and practice. These two sub-themes were identified ‘Lack of Time and ‘Staff Knowledge and ward practices’.

4.14.3.1 Lack of time

Regardless of communication frameworks, students recognised time as the most important element in communicating and quality interactions between nurses and people with dementia. Competing priorities within the acute care setting forced students to make choices between clinical tasks and meaningful interactions with patients with dementia.

> *Just give them time. I know the wards are busy and medical tasks are there like medications and writing, but there is nothing that can compare to communicating effectively with a patient. They will always remember you if you have communicated their needs and if you have alleviated any distress they may have. I feel like that’s more important than getting your writing done, that can always be done later* (Interview one).

During the workshops, some students discussed the difficulty of spending time with patients on the wards when there are other outstanding clinical tasks. Students suggested that meaningful engagement with patients with dementia was sometimes not perceived as clinically significant by other staff members.

4.14.3.2 Staff knowledge and ward practice

Part of the challenge in the acute care setting was lack of dementia training for staff. Students observed staff behaviour that was task orientated rather than person-centred. Students welcomed VERA training for themselves but they also felt that staff on the ward required training on dementia communication, including improved communication within a team on individualised care plans for patients with dementia. Students acknowledged the importance of other staff having the training and knowing the patient.

A lack of education overall and a lack of knowledge and its effect on those with dementia within the acute care setting.

You could even work it out with staff who you are there with, like what kind of methods have worked for this particular person to calm them down (interview six).

One students also commented on ward practices and routines that can impact on providing person centred care.

I found it very challenging at times and I suppose at other times I found it quite easy'.

This student explained that in his opinion *'It really does depend on how the hospital or the ward is set up to care for the patient'.' You know at times you may be moving beds constantly around the bay or moving the patient from bed to bed and the patient may find it hard to get settled (interview six).*

4.14.4 Limitations

Students had limited time to engage with the interview process, especially when conducted via telephone. Interviews were conducted at the end of clinical placements, 4 to 6 weeks after the workshop. Students often did not engage in in-depth critical reflection as the dementia communication workshop was one of several education experiences. They often struggled to recount specific experiences of communicating with people with dementia and if and how they used the VERA framework. The interviews were undertaken by a novice researcher and there were missed opportunities to probe some of the replies in greater depth.

Following the interviews, we will revise the interview questions to probe more on ' what was good or difficult about using the VERA framework, explore what accepting a 'person's reality' means to students and how students make decisions about using reality reorientation versus validation.

4.15 Synthesis of observation, survey and interview data

The combination of data from the three sources: survey, interviews and observation of practice provided a more in-depth understanding of how the dementia communication and

VERA framework impacted on student's knowledge and behaviour (Figure 4.1). Four main factors that can act as enablers or barriers are identified: bespoke dementia communication, student clinical placement, staff training, and the clinical care context (time and resources).

4.16 Enablers

Overall, the training and the VERA framework were very well received as a communication tool and participants would have welcomed the opportunity to have the training earlier in their programme. Participants described merging and integrating it with their existing strategies. The survey data indicated that participants who received the training were better able to recognise opportunities for person-centred responses. The survey data also indicated that exposure to clinical placement alone and people living with dementia increased students' sense of dementia competence to some extent. Prior experience from working with older people with dementia in other care settings helped students develop confidence and skills to help support patients. The observation data identified a high proportion of positive task and social interactions in both the intervention and control group.

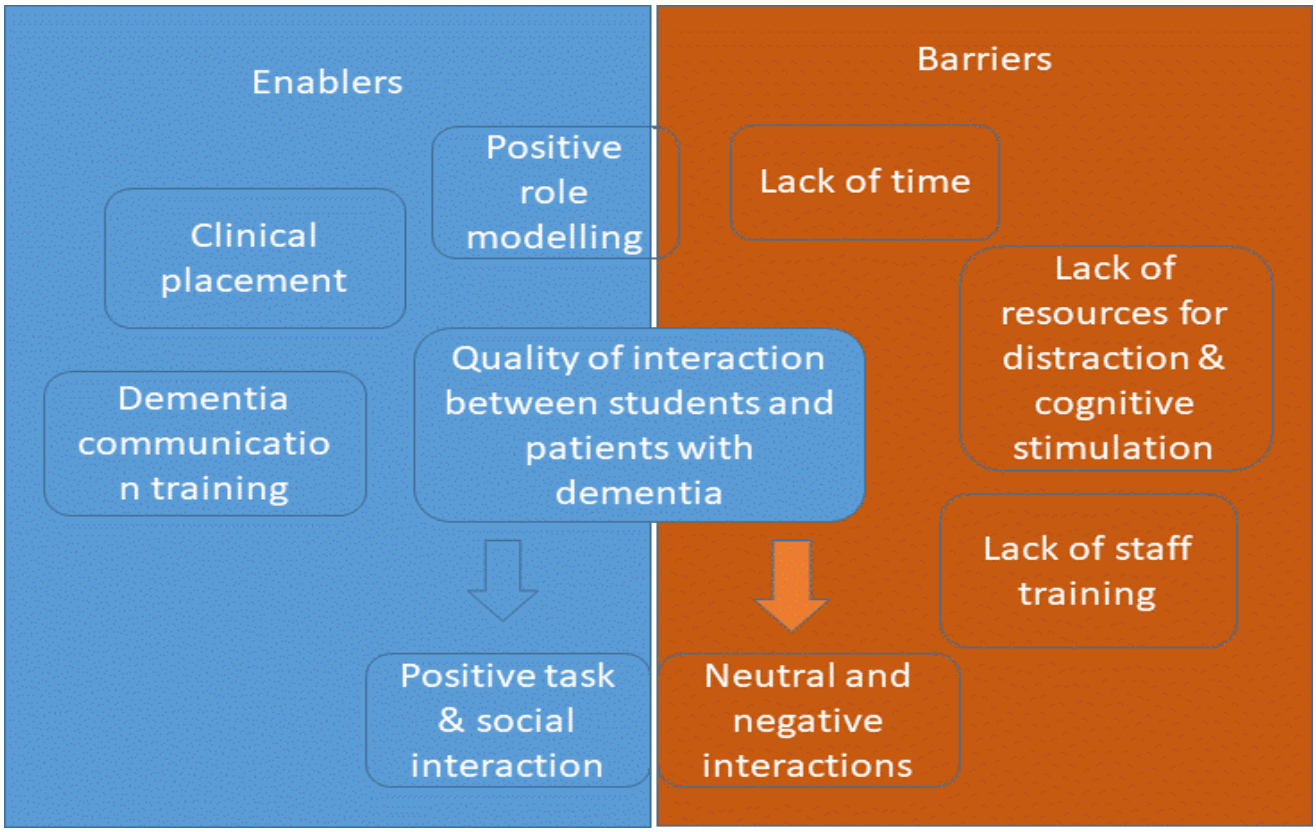
4.17 Barriers

Despite the positive response to the training and students attempting to use elements of VERA in practice, there were challenges. The most significant of these were lack of time, limited exposure to strong dementia communication role models in clinical practice and a perception among students that clinical staff required dementia communication training. The observation data identified a very small number of negative interactions, but there was a high proportion of neutral interactions that could be described as missed opportunities to promote a more person-centred and social care environment. The lack of attention to cognitive stimulation, a ward environment, especially in one hospital, with few concessions to dementia-friendly principles and lack of availability of resources to relieve patient boredom made it difficult for students to deliver the standards of care they expected and wanted to deliver.

During clinical placement students are strongly influenced by their mentors and other registered nurses on the ward and each student nurse is allocated a preceptor whilst on clinical placement. It was evident from the student observations that students were heavily influenced by other members of care staff and facilitators reflected on the importance of both the student and the preceptor receiving the training.

Staff shortages contributed to impoverished care and learning environment. This frequently resulted in students spending little time with their clinical preceptor(s). From the eleven observations undertaken none of the students were accompanied by a preceptor for any duration of the observations. When students did spend time working with other members of staff it was evident that the focus was on tasks with minimal involvement or interaction with patients.

Figure 4.4 Enablers and barriers for quality interaction between students and patients with dementia



4.18 Feasibility of RCT

The final reflections in this chapter are on the feasibility of undertaking a RCT and the lessons we learned from undertaking this feasibility study. We will also appraise the strengths and limitations of the study design. There were many challenges identified in conducting the study such as organising the delivery of the training, electronic survey, undertaking student observations and interviews in the acute-care setting. In some situations, we introduced modifications to the initial protocol to address these challenges and this is described below.

4.18.1 Delivering the training

Initially, the dementia communication training was offered to students as a voluntary workshop during their university-based modules. An email was sent to all students scheduled to commence their older adult placement and the facilitator visited students at the start of class to generate interest and support. Although students voiced interest in the dementia training and recognised its potential benefits, they had trouble in managing time on an already very busy curriculum. At the beginning of the academic year (2018) it was also difficult for facilitators to find an available slot whereby all students scheduled to start an older adult placement could attend, as classes and modules were further subdivided and individual student timetables differed.

4.18.2 Sample size

In the feasibility study, we estimated a sample size of approximately 50 students available to recruit to the study. During the study period January to Sept 2019, there were far fewer students' allocated to the older adult wards than anticipated. We extended recruitment to medical wards, but again student numbers were small.

In the end, we delivered the training to all fourth year students on clinical placement during their study preparation week. This may have impacted on students' ability to put the training into practice, as some students were on wards with no patients with dementia.

Students on placement at this time were mainly fourth-years who were considered part of the ward establishment, thus it was very difficult to release them from the wards for training. To overcome this we scheduled training during students' preparation week.

In order to recruit an adequate sample size, the dementia training intervention will need to be incorporated into the mainstream curriculum rather than expecting students to volunteer for training in their own time. However, this would undermine the voluntary nature of the intervention.

4.18.3 Electronic-survey

All students who participated in the study were asked to complete a pre-post placement survey. Initially, students were sent this survey via email to their student account. Uptake of the electronic survey was low compared to paper surveys given at the end or beginning of structured study time. Students reported receiving too many electronic surveys via their student email account and they tended to ignore them. If attempting to scale this intervention and data collection, then a combined strategy of electronic and paper survey may be required. Incentivising survey completion using vouchers or prize draws may also have boosted response rates.

4.18.4 Student observations within the acute care setting

Students that were allocated to the two designated older adult wards in Hospital A and Hospital B were eligible to participate in the student observations. Clinical nurse managers were informed regarding the study and ward rosters were checked to identify when students were scheduled for duty. Students provided informed consent to be involved in the observation. As mentioned, one particular unit (Intervention site) had a designated room for people with dementia. Normally, students are allocated to this room with a registered staff nurse, but due to short staffing on the ward, the student nurse was often reallocated at very little notice. This made observations very difficult as the student nurse was often in a section

without a patient with a dementia diagnosis. Obtaining consent from patients and families to be involved in the observation was also challenging as described previously.

4.18.5 Site contamination

There was no cross-over of students between sites i.e. students allocated to the control site did not undertake clinical placement in the intervention sites and during this final phase of their programme they are not in college together. While students may mix socially, there was likely to be little risk of students sharing their learning from the training.

Students allocated to the control group received the pre-placement survey without the intervention, but we made a commitment to deliver the training once data collection was complete. The training was delivered to control group students during their final prep week in September 2019. Prior to the intervention delivery, post-placement control data was collected from students who had not yet complete their electronic survey.

4.18.6 Randomization

We tested this intervention on two sites with no randomisation. In Ireland, there are only a small number of model four (tertiary referral centres) and model three (general hospitals) with dedicated older adult acute care units. Thus undertaking an adequately powered study would require the more general approach of delivering the intervention to all students, rather than testing the impact of the training plus older adult clinical placement compared to older adult clinical placement alone as in the Naughton et al. (2018) study. Undertaking a fully powered randomised trial would require dedicated resources and the recruitment of a large number of hospitals to adjust for clustering at both ward and hospital level.

4.18.7 Summary of challenges

Time is an important constraint for student participation, as students already have a busy academic and clinical schedule. Therefore, despite students' ability to identify the benefits of VERA, the dementia training needs to be available as part of the curriculum while students are in college in order to ensure consistent and efficient delivery. In terms of the study design,

a RCT involving older adult acute care wards would require a large number of hospitals to recruit a sufficient number of students. Only a few hospitals in Ireland have dedicated older adult acute care units. The feasibility of undertaking observation in busy acute care clinical areas is still questionable due to unpredictable student allocation to care for patients with dementia and the challenges in obtaining consent for observation from patients or families.

4.19 Conclusion

Overall, the dementia communication training was well received by students and the vast majority (92%) of students would recommend the training to their peers as well as for qualified clinical staff. The core finding from the survey data was that students who had received the intervention were more likely to identify person-centred responses as measured by case vignettes than those who had not received the training. Student's exposure to clinical placement has a small positive impact on their sense of dementia competence. The observation data indicated there was a high proportion of 'positive task' interactions between students and patients in both groups, but between 32%-45% of interactions were neutral and contributed little to creating positive social environment for people with dementia.

Collectively, student interviews and ward observation identified barriers to operationalising person-centred communication. This included lack of time, limited supervision, and role modelling by qualified staff and lack of distraction resources for patients.

In terms of the evaluation, there were several challenges in delivering the intervention as per the protocol, and in collecting the data as intended. This impacted on the overall quality of the study and risk of bias. In chapter 5 there is a full discussion on these issues.

Chapter 5

5.1 Introduction

In this chapter I will critically analyze the results of the study in line with the study aim and objectives. The aim of this study was to modify and test the acceptability of a dementia communication intervention for undergraduate nursing students and to test the feasibility of undertaking a non-randomized controlled trial design as a method of evaluating the intervention. The study aimed to address uncertainties to inform the potential of undertaking a fully powered randomized trial of dementia communication versus education as usual or to determine if such a trial is not appropriate and/or feasible.

5.2 Outcomes

This was a feasibility study and was not powered in terms of sample size to demonstrate a statistically significant effect.

The overall study aims were to;

a) Modify an existing education intervention based on the VERA framework and test delivery of the workshop.

b) Examine student recruitment and retention to the study.

c) Test the logistics of data collection including use of structured observation using the QUIS in the acute care setting

d) Test the reliability and validity of the research instruments.

e) Assess the variance in outcomes between intervention group and control group.

5.2.1 Modifying and testing the intervention

In this study, we tested the feasibility of modifying an existing education intervention based on the VERA framework (Blackhall et al., 2011, Naughton et al., 2018) and its delivery within an Irish healthcare context. The intervention consisted of 1.5-hour face-to-face training incorporating theory, role play, and discussion on how to operationalise the principles in practice. The roleplay using real patient scenarios was an important part of the

training as it allowed students to rehearse their new skills, some students commented that use of actors could improve the authenticity of the training.

The intervention was well-received by all participants. The majority of participants were in the fourth year of their programme and strongly recommended that the training should be delivered within the first and second year of the programme. Overall 90% of students would recommend the training to their peers.

5.2.2 Logistics of data collection within the acute care setting

To test the efficacy of the intervention we collected data in three ways. Pre and post-placement surveys (both intervention and control groups), student observations during pre-scheduled placement (both intervention and control groups) and semi-structured student interviews from the intervention students only.

The initial uptake of electronic questionnaires was low as students reported extremely busy timetables. Whilst the introduction of paper surveys increased student participation, this was mainly during scheduled prep week hours. For data collection to be feasible on a larger scale, students would need allocated time to complete the survey. This response supported the wider body of literature whereby students are both highly receptive to training and eager to participate, however, students were often only prepared to participate in this type of training once it was scheduled as part of the structured curriculum (Balzer et al., 2016, Naughton et al., 2018).

This mirrored the recruitment of intervention students to participate in the semi-structured interviews whereby students did not have time to leave the wards. This resulted in phone call interviews which inadvertently lowered the overall interview quality.

5.3 Impact of the intervention

In the evaluation, we collected survey data from a total of forty-nine students (n=49), conducted interviews with eight students (n=8) and undertook observation on eleven (n=11)

participants. This is the first study that has combined student self-report in survey and qualitative interviews with observation data from practice.

Using independent t-test analysis of the survey data, students who had received the intervention were more likely to identify person centred-responses than those who had not received the intervention. The post-intervention survey data were collected approximately six to eight weeks after the training, suggesting a sustained change in knowledge. However, using repeat measure ANOVA on a subset of participants with pre and post survey data, there were no statistical differences between the intervention and control group. There was no significant differences in Sense of Dementia Competence between the groups.

In the qualitative data, participants described incorporating the VERA framework with existing models of communication such as the SOLEIR or reality reorientation as oppose to applying the model in a rigid, systematic manner. Student's adaptation and fluid application of the VERA framework was similar to that within the Naughton et al. (2018) feasibility study.

The observation data, though difficult to collect, illustrated that the majority of interactions between students and patients with dementia were positive. However, in both the intervention and control group there were examples of neutral interactions that were missed opportunities for better quality communication. This is the only study we are aware of that included observation of student practice in the evaluation.

In acute care hospitals, it is common to cohort patients with dementia into a single bay, data collection was very challenging due to unpredictable student allocation to this bay. In addition, obtaining patient or family consent to undertake observation was also very challenging in an acute care setting. Similarly, Barbosa et al. (2016) used video recording to examine the quality of interaction between care home staff and patients with dementia.

5.4 Challenges in operationalising VERA training in practice

The student semi-structured interviews explored some of the challenges from a students' perspective in operationalising the VERA communication principles. The main challenge was the 'impoverished clinical environment'. This was also evident during non-participatory student observations whereby students were extremely busy and working with limited resources. It contributed to the difficulty organising student observations as short staffing on wards reduced student flexibility within units. The challenges in delivering person-centred care are substantiated in the systematic review by Surr et al. (2017) whereby staff stress, strain and burden was a factor in 56% of the studies.

Students identified within the semi-structured interview the potential benefit of VERA training for all members of the multi-disciplinary team. During clinical placement, role modelling and coaching from preceptors and other clinical staff are the most influential strategies on student learning and behaviour. Going forward, staff VERA training is the catalyst to the successful operationalization of VERA within the clinical setting and can create the ability for preceptors and mentors to provide specific feedback to students.

5.5 Feasibility of RCT design

This study aimed to test the feasibility of a non-randomised trial and the different data collection methods in an Irish healthcare context. While the dementia communication training was highly acceptable to students the biggest challenge was recruiting and retaining students to the study.

We recruited two hospitals to the study, hospital A (intervention site) and hospital B (control site). Our initial intention was to recruit student's only allocated to the older adult wards in each site, but student allocations to these wards were significantly less than in previous years. We modified our protocol to include all students allocated to the medical or surgical wards during the data collection period from January to June 2018. We similarly modified the

delivery of the intervention from the small group to the large class which may have compromised the fidelity of the training. It was also likely that some students who received the training were unable to operationalise the training in practice as they were not allocated to the wards with patients with dementia.

In terms of site contamination, students from the university were allocated to either site and cross-over did not occur, although in theory students could meet outside of placement hours and discuss the training, in practice this did not really happen and there was minimal site contamination.

The intervention was mainly delivered to fourth-year students as they were the main student group in the hospital during the data collection period. We included a small number of first-year students allocated to the older adult wards during this period, uptake of the voluntary training session was low partly due to clashes with curriculum or students not aware the training was taking place (communicated through student email). In similar studies, the training was delivered within the first or second year of training, was incorporated as part of the standard curriculum and was often compulsory which explained the high levels of training uptake (George et al., 2011, George et al., 2013, Jefferson et al., 2012, Jordan and Church 2013 Kaf et al., 2011, Paquette et al., 2010 and Woods et al., 2015). In these studies, data were frequently collected immediately after the training, before students had an opportunity to apply their learning in practice.

In our experience aligning the dementia training to the specific older adult acute-care clinical placement was not feasible. The number of students allocated to these wards would make it very difficult to recruit an adequate sample size. In addition to this, delivering the training to specific students allocated to these wards proved very challenging due to a busy curriculum and variable student shift allocation during clinical placement. Unlike in the previous

Naughton et al. (2018) study, students did not have a set ‘orientation day’ to the ward whereby the training could be delivered to all students allocated to the ward.

5.5.1 Feasibility of the survey and interview data collection

Initially, our survey was delivered to one hundred and ten students (n=110) via electronic student email. Electronic means was favourable as it allowed the facilitator to collect and store student data using an encrypted university email. It is also the means predominantly used by the university for student communication and saved on printing costs for a large student sample.

The response to the electronic survey was poor, despite student electronic reminders (n=5) and in-person class reminders (n=3). Informal student feedback identified that student email accounts are in-on-dated with electronic invitations to participate in surveys. Nulty et al. (2008) reported similar electronic survey fatigue among students. To boost response rates, paper surveys were given to students on the wards during placement time and during student prep week.

5.5.2 Feasibility of student interviews

To further explore student’s perception of the dementia communication training based on the VERA framework and barriers and facilitators to its implementation in practice, we conducted semi-structured interviews with the intervention group. Students were invited to participate in these interviews via electronic invitation to their student email (n=59). Recruitment remained low with three responses (n=3).

This may have been due to the summer period whereby many students were on summer holidays or working their allocated placements. A reminder was sent to each student via an electronic means and students were given the opportunity to undergo this anonymous interview via a telephone call. Although this boosted our response rate to eight (n=8) it impacted on the quality of our student interviews as students tended to give shorter answers.

5.5.3 Feasibility of student observation

Our original intention was to undertake observation on between 10 to 15 students on each ward. However, this was not possible due to the low number of students allocated to the older adult wards. In order for student's observations to be feasible on a large scale, it would require the recruitment of a large number of specialist dementia wards in both acute and long term care.

We had planned for an observer blinded to intervention allocation to conduct 10% of the student observations to establish the inter-rater reliability. Due to the challenges in scheduling student observations, we were unable to organise this. As a result, the facilitators that delivered the intervention conducted the student observations and were not blinded to the intervention and control site with a corresponding risk of bias.

The number of observations undertaken was also reduced due to challenges in obtaining written consent from families or where appropriate patients in an acute care setting. Whilst patients and families were generally happy to be observed as part of student interactions of non-personal care, they were reluctant to give explicit, written consent. There were also many patients who had very few family visits. Therefore if a fully powered trial is to be conducted, ethical approval to provide patients and families with information on this minimal risk study but apply a 'waiver of written consent' may be required. Such an approach ensures that any adult who may lack decision making capacity or capacity to consent is not excluded from the potential benefit of participating in research (HSE Consent making policy, 2017).

5.6 Learning from current study

We conclusion is that a fully powered RCT to test the effect of the VERA based dementia training would require considerable resources to enable the recruitment of a sufficient sample size. The most robust design would be a cluster RCT, this would require recruitment of a large number of older adult acute care wards and long term care facilities that support student

training. The trail should include students from all stages of the programme over a longer time period than tested in this study.

Recruiting and retaining students in the study is likely to require face-to-face rather than electronic approaches, this again increases the intensity of the study. Delivering training to all students regardless of clinical placement was more feasible than trying to align the training to the specific older adult clinical placement. However, students who did not have an opportunity to practice their new skills in real-time may have gained less from the training.

While the training was well received and the survey suggested changes in student knowledge, the observation data identified that only some components of VERA were regularly used by students in their interactions with patients. Observation using the QUIS tool provided very valuable insight into how students incorporated the VERA principles into practice. Using observations provides data on behaviour changes versus student self-report alone which has been a limitation in previous study designs. The value of this tool and its ability to provide a non-participatory, systematic means of auditing staff or student behaviour has been reinforced by other studies such as Bridges and Wilkinson (2011). The observation data in our study highlighted opportunities for further student learning whereby students could be provided with immediate feedback from the observation to help their critical reflection. Although the observation did not include staff, students in their interviews suggested that ward staff, both nurses and healthcare assistants could also benefit from dementia communication training.

In this study, due to very limited resources, we did not deliver the VERA training to staff, although it was recognised that better staff preparation could have helped them to develop their dementia communication skills and provide more constructive feedback to students. Any future study should aim to deliver the specific training to staff in order to prepare the

clinical sites to support students. In Ireland, there is no compulsory dementia communication training for staff working in acute care, despite widespread policy recommendations (Irish National Dementia Educational Needs Analysis 2014).

The challenges in 'fitting in' the intervention delivery to already pre-planned curricula, means that the 1.5-hour workshop should be incorporated in the planned curriculum to ensure adequate representation from all years of the nursing programme (1st to 4th years). Testing the data collection methods has provided insight into the most effective approach that combines electronic and paper options and building in data collection time during scheduled contact e.g. before the start or at the end of class.

5.7 Conclusion

Overall the intervention was well received by students with 92% reporting that they were 'likely to recommend the training to others' and 85% reporting that they were 'likely to operationalize the skills they learned in clinical practise'. Feedback from students suggested they wanted more opportunities for practice and that dementia communication should be introduced early in the first or second year and revisited with more complex situations in the fourth year. Students also requested videos illustrating different scenarios that they could access in their own time.

The evaluation data suggested that the training may have helped students better recognise opportunities for more person-centred responses and raised their awareness of how to improve interactions with people with dementia. The observation data and qualitative interviews also highlighted the challenges students faced in acute care in delivering the kind of high-quality care they wanted to deliver.

This feasibility study provided a useful insight to inform a trial protocol for a larger study but it is acknowledged that using a RCT design may not be feasible without large scale investment or ethical justification. The response from students suggested that a delay in

incorporating VERA as part of the standard student curriculum may not be justified while preparing an application to secure research funding.

5.8 Our recommendation

There is a large body of qualitative and quantitative literature that confirms students feel underprepared to care for patients living with dementia and students request specific dementia communication skills training. This is further supported by two literature reviews conducted by Alushi et al. (2015) and Surr et al. (2017).

Focus interviews conducted in preparation of this study further supported this concept and students reported very poor rates of formal dementia training in their undergraduate programmes.

The new learning from this study was that although the dementia communication intervention was well received by students and may increase their ability to identify person-centred responses, this intervention is not feasible to deliver as a voluntary, additional training opportunity in the undergraduate programme. Dementia communication training needs to be incorporated into mainstream curriculum. Students require opportunities to practice dementia communication skills through roleplay or simulation. Presenting theory alone or didactic teaching is unlikely to help students incorporate dementia communication skills in their interaction with patients especially in busy clinical settings where there are competing priorities.

Chapter 6

6.1 Introduction

The number of people living with dementia is growing both nationally and internationally without any known cure (WHO 2017) and this group of people require greater input from community and acute health care services. To meet the specific needs of this vulnerable patient group, there is a need for graduate and undergraduate healthcare professionals to have specific dementia training (Alushi et al., 2015, INDS 2014, Naughton et al., 2018, Surr et al., 2017). This need was recognised nationally in 2014 by the Ireland National Dementia Strategy (INDS), when it reported that 48% of graduate nurses had not received formal dementia training. One of its key recommendations was that all healthcare staff working with older adults should receive specific training including communication skills (INDS 2014). Despite this 43% of students in this study had not received any formal dementia communication training, this pattern is reflected in international literature and there is still no standardised dementia communication training in undergraduate curricula (Alushi et al., 2015, Surr et al., 2017).

There is a large body of literature surrounding the economic impact of acute dementia care and issues such as delayed discharge, malnutrition, delirium, pressure sores and decreased mobility (Alzheimer's Society report, *Counting the Cost* 2010, Connolly et al., 2012, INAD 2013, INDS 2014, Timmons et al., 2016,). Despite this body of evidence stressing the importance of dementia care, there has been no major breakthrough in undergraduate dementia education and in 2017 the Integrated Care Programme for older persons was launched without a dementia specific care pathway.

In order for students to deliver high standards of person centred care in an already challenging healthcare climate, dementia communication training needs to become a mandatory component of undergraduate curricula. University-based training can only go so far, ultimately the

strongest influence on student behaviour is the role modelling and mentoring from qualified nurses during their clinical placements (NMBI 2015). Thus the dementia communication skills and confidence of qualified nurses will determine how well students can incorporate university based training into their clinical practice. As many staff nurses have not received any formal dementia communication training it is essential that they are aware of the VERA framework and its evidence base in order to facilitate student's use of the framework.

6.2 Recommendations

As this was a feasibility study, it is important to base recommendations on the strength of the evidence provided and to identify the limitations of the current study design.

6.2.1 Education

a) Specific dementia communication training needs to become a mandatory component of the undergraduate curriculum.

b) The VERA framework has potential as a foundation level framework delivered to students within their first or second year of training to introduce core concepts of person-centred communication.

c) Dementia communication training should be revisited in the later stages of student training (year three and four) with a focus on more complex patients' scenarios.

d) Any dementia communication training for students needs to be matched with corresponding training for clinical staff and student mentors, in order to better support student learning during clinical placements.

6.2.2 Research

a) As a pilot study, the sample size was not adequately powered to determine the effect of the dementia communication training, especially on observed student interactions with people with dementia.

b) This was not a randomised trial, thus the risk of bias must be considered in any of the results.

c) There is a need for further research of the VERA framework especially to measure the impact of the intervention on student behaviour.

d) There needs to be further testing of the feasibility of undertaking non-participant observation using the QUIS tool on students during clinical placement.

e) A fully powered randomised trial is not possible without considerable resources, especially if using the QUIS as a primary outcome.

f) Alternative research designs could be considered such as delivering the intervention at a unit/ward level with all staff recruited to the study and including students.

g) Future research should aim to capture the voice of people and families living with dementia.

h) Guidance in relation to consent for research or quality improvement activity amongst those with dementia is needed at a national level.

6.2.3 Policy/strategy

a) The National Dementia Strategy needs to work closely with regulatory bodies such as NMBI, Irish Medical Council and higher-level education institutes to develop a

standardised dementia communication training for all pre-registration health care professionals

b) People living with dementia and their families need to be involved in developing training and the associated resources for student and health professional education.

c) There is a need for research funding to develop and evaluate a national dementia communication training intervention.

d) The quality of the care environment including adequate nurse-patient ratios and availability of resources for patient cognitive stimulation and distraction need to become part of nurse and organisation quality metrics.

6.3 Strengths of the study

Students were extremely receptive to the training and would highly recommend the training for other student and other members of the multi-disciplinary team. The data suggested the intervention may have a positive impact on students awareness of opportunities for person-centred communication.

The evaluation used mixed methodology and tested the feasibility of undertaking observation in clinical settings. Previous research has relied largely on student self-report. The study demonstrated that it was feasible to recruit students to the study but it requires better recruitment and retention strategies to capture pre-post data on individual students. The study provides important learning on the future evaluation of dementia communication training.

6.4 Limitations of the study

This was a pilot study and was not powered to demonstrate significant differences, therefore any statistical change must be interpreted with caution. Whilst the Cochrane risk of bias tool

provided a guideline in which we appraised the study (appendix 4.15), there was still a possibility of bias as the facilitators delivering the intervention were also directly involved in data collection and analysis. We did not recruit a sufficient number of students to the control group, especially for the observation sub-study.

6.5 Conclusion

In the current Irish health service, whereby undergraduate student nurses are faced with many challenges such as understaffing, busy timetables and complex care needs of patients with dementia, voluntary student participation in a dementia educational intervention based on the VERA framework is acceptable but not feasible. This feasibility study identified that in order for this intervention to be delivered effectively, it needs to be incorporated as part of the mandatory student curricula. Whilst this feasibility study was not of full power, it did show an increase in student's ability to identify patient-centred care opportunities and this effect was evident four to six weeks after the training was delivered, indicating retention of the new knowledge and long term behavioural change.

The quality of the care environment and the role of qualified staff and student mentors were not addressed directly in this study, but future research should aim to deliver the training and feedback from observation to all staff, not just students. The students in this study were clear that the dementia communication training using the VERA should become part of their curriculum and that it may not be ethical to delay the training in order to carry out a RCT design. Yet, there is still a need to develop a robust evidence-based, standardised dementia communication training for all health care students.

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Appendix

Fig 1.1 Search Strategy CINAHL

Date	31.10. 2018	
Research Topic	Dementia education programmes for pre-registered healthcare students.	
Key Concept A	Student(s) OR undergraduate OR pre-registration	219,136
B	nursing OR occupational therapy OR speech and language OR physiotherapy OR medicine OR medical OR inter-professional OR healthcare professional	1,297,087
C	dementia or alzheimers or cognitive impairment or memory loss or louis body or frontotemporal	83,478
D	Communication OR training OR intervention OR program(me) OR education OR inter-professional.	593,671
Eligibility criteria related to the topic (these are informed by your knowledge prior to conducting the search)	2014-2018 English language	Total41
Concept A and D combined: 487,275 Concepts A and C and D combined: 530,922 Concepts B and D: 204,876 Concept A and C: 106 Concept A and B and C and D: 65		
Inclusion criteria 1 1 part b 2 3	1. A dementia communication training intervention based on the VERA framework for pre-registration nurses: Part I developing and testing an implementation strategy. Naughton, Corina; Beard, Chloe; Tzouvara, Vasiliki; Pegram, Anne; Verity, Rebecca; Eley, Rhiannon; Hingley, David; Nurse Education Today , Apr2018; 63 94-	

Total Accepted	100. 7p. (Article - research) ISSN: 0260-6917 2.A feasibility study of dementia communication training based on the VERA framework for pre-registration nurses: Part II impact on student experience. Naughton, Corina; Beard, Chloe; Tzouvara, Vasiliki; Pegram, Anne; Verity, Rebecca; Eley, Rhiannon; HingleyDavid; Nurse **Education** Today, Apr2018; 63 87-93. 7p. (Article - research) ISSN: 0260-6917 **6.Evaluation of 'Dementia Friends' programme for undergraduate nursing students: Innovative practice. (includes abstract)** Mitchell, Gary; McGreevy, Jessie; Carlisle, Susan; Frazer, Pamela; Traynor, Marian; Lundy, Heather; Diamond, Monica; Agnelli, Joanne; **Dementia** (14713012), Nov2017; 16(8): 1075-1080. **Communication And Respect for people with Dementia: Student learning – A novel practical experience of undergraduate students interacting with people with dementia in care homes (innovative practice).** Wood, Julia Helen; Hammond, John A.; Alushi, Ledia; Dementia (14713012), Feb2017; 16(2): 243-248.6p. 3

Fig 1.2 CINAHL Excluded criteria

3. conference	21. n/a community based research on dementia
4. explorative study	22. Alushi et al (2015) review
5. enriching social connection ; n/a	23. Student understanding of palliative care.
7. Although a good pilot of an intervention, it focuses solely on sensory.	25. n/a investigation of clinical experience qual.
8. n/a examination of nurse records	27. abstract
9. historical nursing n/a	28 an investigation of nurses knowledge
10. Qualitative study of developing inter personal skills for patients with dementia.	29. n/a service user involvement
11. N/a for lit review dementia care content on student nurse curricula.	30. a review of teaching and ageing in geriatric med.
12. n/a student knowledge	31. medical education a review
14. n/a teaching methods	32. qual. Nursing student experience of dementia care.
15. medical student views of dementia	33. Nursing student's intentions to work in dementia care.
17. trial exercise of telerehabilitation	34. managing chronic pain
19. The impact of educational experience on students. N/A but must read.	35. Another review of dementia content.
20. n/a care workers as mentors	36. Conference. Student knowledge of Alzheimer's.
4. No access	37. OT conference n/a
	38 Simulation for undergraduate; care of the elderly specific. n/a
	39. promoting excellence in dementia : conference n/a
	40. nursing students attitudes and knowledge of Alzheimer's

Fig 1.3 Search Strategy PUBMED

Date	1.11. 2018	
Research Topic	Dementia education programmes for pre-registered healthcare students.	
Key Concepts A	Student(s) OR undergraduate OR pre-registration	11 0,9 12
B	nursing OR occupational therapy OR speech and language OR physiotherapy OR medicine OR medical OR inter-professional OR healthcare professional	9,0 47, 89 7
C	dementia or Alzheimer's or cognitive impairment or memory loss or louis body or frontotemporal	31 4,5 13
D	Communication OR training OR intervention OR program(me) OR education OR inter-professional or skills or knowledge	3, 03 9,4 90
Eligibility criteria related to the topic (these are informed by your knowledge prior to conducting the search)	2014-2018 English language AFTER LIMITTS;	26 1 14 1
Concept A and D combined: Concepts A and C and D combined: Concepts B and D: Concept A and C: Concept A and B and C and D:	72899 392 491655 402 137	
Inclusion criteria	1. A dementia communication training intervention based on the VERA framework for pre-registration nurses: Part I developing and testing an implementation strategy. Naughton, Corina; Beard, Chloe; Tzouvara, Vasiliki; Pegram, Anne; Verity, Rebecca; Eley, Rhiannon; Hingley, David; Nurse Education Today, Apr2018; 63 94-100. 7p. (Article - research) ISSN: 0260-6917	

	2. A feasibility study of dementia communication training based on the VERA framework for pre-registration nurses: Part II impact on student experience. Naughton, Corina; Beard, Chloe; Tzouvara, Vasiliki; Pegram, Anne; Verity, Rebecca; Eley, Rhiannon; HingleyDavid; Nurse **Education** Today, Apr2018; 63 87-93. 7p. (Article - research) ISSN: 0260-6917 3. Improving competencies in evidence-based **dementia** care: Results from a pilot study on a novel **inter-professional training** course (the KOMPIDEM project). Balzer K, Schröder R, Junghans A, Stahl U, Träder JM, Köpke S. GMS J Med Educ. 2016 Apr 29;33(2):Doc35. doi: 10.3205/zma001034. eCollection 2016 4. c**ommunication** And Respect for people with **Dementia**: **Student** learning - A novel practical experience of **undergraduate students** interacting with people with **dementia** in care homes (innovative practice). Wood JH, Alushi L, Hammond JA. 5. **Communication** and respect for people with **dementia**: **student** learning (CARDS) - the development and evaluation of a pilot of an **education intervention** for pre-qualifying **healthcarestudents**. Wood JH, Alushi L, Hammond JA. Int Psychogeriatr. 2016 Apr;28(4):647-56. 6. 87 2015 Nov;44(6):1036-9. doi: 10.1093/ageing/afv100. Epub 2015 Aug 10. A collaborative strategy to improve geriatric medical education. **Cockbain BC**[1], **Thompson S**[2], **Salisbury H**[3], **Mitter P**[4], **Martos L**[4].

Fig 1.4 Search Strategy PSYCHINFO

Date	31.10. 2018	
Research Topic	Dementia education programmes for pre-registered healthcare students.	
Key Concepts	Student(s) OR undergraduate OR pre-registration	113,765
AND B	nursing OR occupational therapy OR speech and language OR physiotherapy OR medicine OR medical OR inter-professional OR healthcare professional	1,128,071
AND C	dementia or Alzheimer's or cognitive impairment or memory loss or louis body or frontotemporal	135,704
AND	Communication OR training OR intervention OR program(me) OR education OR inter-professional.	1,371,653
Eligibility criteria related to the topic (these are informed by your knowledge prior to conducting the search)	2014-2018 English language	Total:60 26
Concept A and D combined: 487,275 Concepts A and C and D combined: 530,922 Concepts B and D: 204,876 Concept A and C: 106 Concept A and B and C and D: 65		
Inclusion criteria 1 (D) 2(D)	1. Evaluation of 'dementia friends' programme for undergraduatenursing students: Innovative practice. *Detail Only Available* Academic Journal Mitchell, Gary; McGreevy, Jessie; Carlisle, Susan; Frazer, Pamela; Traynor, Marian; Lundy, Heather; Diamond, Monica; Agnelli, Joanne; 3.Communication And Respect for people with Dementia: Studentlearning – A novel practical experience of undergraduate studentsinteracting with people with dementia in care homes (innovative practice).Wood, Julia Helen; Alushi, Ledia; Hammond, John A; Dementia: The International Journal of Social Research and Practice, Vol 16(2), Feb, 2017 pp. 243-248.	

Fig 1.5 Rejected literature from PSYCHINFO

2. literature review	9. literature review	15.nursing student intentions	22.Clinical gerontology social work practice
4. n/a teaching gerontology students	10. Nursing student preferences	16. Small group teaching in a psych hospital	23. Orientation strategies for people with Alzheimer's
5. n/a development of learning objectives	11. Dementia protocol	17. Palliative	24. n/a social psychiatry
6. n/a qualitative nurse anxiety and fear towards dementia patients	12. Review of Scotland's 'dementia journey'	19. n/a multi-morbidity	25. r/v of excellence in dementia care
7. review of curricula content	13. Enriching social connection	20. Medical students' attitudes towards people with dementia	26. Code status discussion in psych med.
8. n/a using action mentor plans (phone rings)	14. Medical students views	21. n/a embedding compassionate care NHS	

Fig 1.6 Search Strategy Cochrane

Date		31.10. 2018	
Research Topic		**Dementia education programmes for pre-registered healthcare students.**	
Key Concepts	**A**	Student(s) OR undergraduate OR pre-registration	47
AND	**B**	nursing OR occupational therapy OR speech and language OR physiotherapy OR medicine OR medical OR inter-professional OR healthcare professional	3504
AND	**C**	dementia or alzheimers or cognitive impairment or memory loss or louis body or frontotemporal	273
AND	**D**	Communication OR training OR intervention OR program(me) OR education OR inter-professional.	4356
Eligibility criteria related to the topic (these are informed by your knowledge prior to conducting the search)		2014-2018 English language	Total: 0
• Concept A and D combined: 487,275 • Concepts A and C and D combined: 530,922 • Concepts B and D: 204,876 • Concept A and C: 106 • Concept A and B and C and D: 65			
Inclusion criteria			

Fig 1.7 Intervention student letter for clinical preceptor

Dear Preceptor,
Research Project: VERA Dementia Education Framework for pre-registered healthcare students.
This letter is to provide you with information on a research project your student _____ from University College Cork is taking part in. The research aims to develop and evaluate effectiveness of a dementia communication skills training for pre-registered nurses. The training is based on the VERA framework outlined by Blackhall et al (2011) VERA framework: communicating with people who have dementia. Nursing Standard,26 (10) 35-39. VERA stands for

Validation- accepting the persons reality, as they are and accepting that their actions have meaning.
Emotion- focus on emotional content of the communication – observation – matching emotional response.
Reassurance- acknowledge the person is safe and that their perspective is understood.
Activity- meaningful occupation based on your knowledge of the individual.

Your student has participated in communication skills training session. During the course of this placement, if the student is caring for a person with dementia they are encouraged to use some of the techniques from the training. The communication strategies may include validation, mirroring, rephrasing, redirecting, as well as brief distraction activities such as reminiscence, reading the new paper, hand massage etc.
You are not expected to take part in the study however I would ask you to support and encourage your student to put into practice some of the skills they have learnt.
If you would like further information on the research or training material, than please contact Professor Corina Naughton.
Once again, thank you for all your support and help in mentoring students.
Kind Regards,

Professor Corina Naughton and Ali-Rose Sisk (MSc student).

Fig 1.8 Student Study Participation Information Sheet

University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

Student Participant Information Sheet

REC Reference Number:

YOU WILL BE GIVEN A COPY OF THIS INFORMATION SHEET

Title of Study: The Development and piloting of a Dementia Communication Intervention based on the VERA framework for pre-registration Nurses.

Part 1

We would like to invite you to participate in this dementia communication study. Before you decide, it is important that you understand why this study is being done and what it will involve. Please take time to read through this information carefully and ask us if there is anything that is not clear or you would like to have further information about.

What is the purpose of the study?
The VERA communication training aims to support nursing students to engage and communicate with people with dementia (PWD). VERA stands for; validation (understanding the perspective of a person with dementia), emotion (recognising emotion such as fear and distress) reassurance (providing reassurance) and activity (identify activities a person may enjoy within a hospital setting).

Although the training has been tried with nursing students there is no clear evidence that it works. The purpose of this study is to compare students who receive the training with students who have not to determine whether the training can improve students' experiences of communicating with people with dementia.

Why have I been invited?
You have been allocated to one of the older person's units (OPU) in your assigned Trust. This is a standard placement during your programme and is not related to the study. While on the OPU it is likely that you will care for people with dementia or impaired cognitive function. Students allocated to the OPUs will be invited to take part in the VERA training.

If you are in the group who receive the VERA training we are interested to see what difference, if any, it makes to your experiences while on clinical placement. If you participate in this training you are still entitled to receive the standard dementia training provided by your Trust and the Faculty.
If you are in the group of students who do not receive the training, there is no disadvantage to your placement, you will receive the standard dementia training. At this point there is no evidence the VERA training makes any difference, but we would like to compare the experiences of both groups. At the time of agreeing to take part in the study you will not know whether you are in the intervention or control group.

Do I have to take part?
No. It is entirely up to you whether or not you decide to participate. A member of the research team, who is not directly involved in your programme, will discuss this with you and give you the information sheet. If you decide to participate you will be asked to sign a consent form. It is your right to withdraw from the study at any time without giving a reason. Your decision to participate or not, will not be shared with anyone involved directly in your nursing programme and will not affect the outcome of your course.

What will happen to me if I take part?
Initially you will be provided with an information sheet and contact details of the researcher. You will be asked to email the researcher if you are interested in participating. Following receipt of your email, a researcher will contact you by telephone or email to answer any questions you may have and to arrange a convenient time to meet in a private room at the Catherine McAuley School of Nursing and Midwifery. Here, the researcher will explain the study, answer any questions and ask you to sign a consent form.

Students in the intervention group will be offered the VERA dementia training. The training will be approximately 2.5 hours and will involve; listening to patient stories, an explanation of what VERA is, role play using the VERA framework and practice using distraction activities suitable for a person with dementia in an acute care setting.

We would like to film some of the training sessions so we can learn how best to structure and deliver the training (training fidelity). We will only film sessions in which all the students agree to allow the training session to be filmed.

The training will be scheduled before you go into your student placement and will be run during normal programme or placement times. While you are on placement you will also have the opportunity to attend 1-2 facilitated reflection sessions to examine your experiences using the VERA training and to share learning with your peers.

If you are allocated to the control group, you will not receive the intervention at this time. We will still ask you to complete some of the evaluation questionnaire and focus group interviews so we can compare your experiences with students in the intervention group. At the end of the study (March 2020) we will offer you the opportunity to undertake the VERA training, even if you have already finished your programme.

What is involved in the evaluation?
In addition to the VERA training, there are two other elements to the study regardless of what group you are allocated to (intervention/control group).

Survey
You will be asked to complete an on-line survey at two separate time points:
Time 1: Before you receive the VERA training and while you are still in University.
Time 2: At the end of your clinical placement on the OPU.
This will take 20-30 minutes to complete. An electronic link to the survey will be emailed to your University College Cork student account and can be completed in your own time. The questions will ask you about how you would respond to different case scenarios, your knowledge of dementia and how well prepared you feel/felt for your placement.

If you agree to take part in the survey you will be given a unique study identification number (ID) which will be used to identify your information across the two time points. Only one member of the research team will have a file linking this unique study ID with your identifying information. People assessing your assignments for your nursing programme will not have access to your survey information.

Focus Group
At the end of your placement some students from both groups will be invited to take part in a focus group. This will be held in the Catherine McAuley school of nursing, during one of your study days in university. The focus group will take approximately 40-60 minutes and will be tape recorded. Topics for discussion will be your experiences of your recent placement and what strategies you used to communicate with people with dementia.

Expenses and payments
The evaluation activities are designed and scheduled to ensure you incur no additional costs, e.g. training and focus groups are scheduled during college study days.

What is being tested?
The study is designed to evaluate if the VERA training on students. We are testing the feasibility of running this kind of study and if the questionnaires we are using are acceptable and able to detect changes in learning.

What are the possible disadvantages and risks of taking part?
The evaluation activities may increase your workload, however, we will schedule the evaluation activates so there is minimal clash with assignments. Sometimes talking about experiences on clinical placement may cause some distress. If this happens and you would like further help or wish to talk to someone else about your experiences the researcher will give you details of the University College Cork student counselling service. You will also be free to withdraw from the study at any time.

What are the possible benefits of taking part in the study?
We cannot guarantee this study will help you in any particular way. However, you may find the VERA training useful during your placement. The information gained from the study will allow us to evaluate if this kind of training should be made available to all students.

If the information in Part 1 has interested you and you are considering participation, please read the additional information in Part 2 before making any decision.

Part 2

What will happen if I don't want to carry on with the study?
You are free to withdraw at any time without giving a reason. The outcome of your degree will not be affected. If you withdraw from the study after 30st December 2019 (the date when the final data collection will be conducted), information already collected may still be used, but if you notify us before this date any information from your survey will be excluded. Because of the nature of focus group interviews we will not be able to withdrawal your contribution, however, no individual will be identifiable in the transcripts. If you wish to withdraw from the study then we can obscure your face in any film of the training session.

Confidentiality
All information which is collected about you during the course of the research will be kept strictly confidential. Any information about you which leaves the Catherine McAuley School of Nursing and Midwifery will be anonymous. At the end of the data collection the study register linking your unique study ID with your name will be destroyed, thus your information will be further de-identified.

In disseminating the results of the research we may wish to show short clips of the filmed training at conferences, in this case you will be able to view the edited clips and decide if you
give permission for the film to be shown in public. You are free to decline and not to have the film shown, or request that your face is obscured using video editing.

Archiving your data
We would like to ask your permission to archive your anonymous data. In the event the VERA training shows sign of benefit we hope to develop this into a larger trial and your data will help us design this study. Only your anonymous data will be stored in an encrypted file on a secure password protected computer within the Catherine McAuley School of Nursing and Midwifery.
We would also like to archive the films of the teaching session to help train others to deliver the VERA intervention. Again you will be able to request that your face is obscured using video editing

What will happen to the results of the study?
The results should be published in a peer reviewed journal within 18-24 months of the end of the study. Data will also be shared with the Faculty and you will be invited to a presentation. A report on the outcomes from the study will be submitted to the Nursing Council of Ireland. You will be given access to this report. We would like to use short film clips of the training to help in the dissemination of the results.

Who is organising and funding the study?
The study is funded by nursing Council of England and Wales with support from the Catherine McAuley School of Nursing and Midwifery, University College Cork.

Who has reviewed the study?
All research within the Catherine McAuley School of Nursing and Midwifery is looked at by an independent group of people, called a Research Ethics Committee to protect your safety, rights, well-being and dignity. This study has been reviewed and given a favourable opinion by the Psychiatry, Nursing and Midwifery (PNM) Research Ethics Subcommittee (RESC) at University College Cork.

You will be given a copy of this Information Sheet and a signed consent form to keep. If this study has harmed you in any way please contact the Clinical Research Ethics Subcommittee (CREC)

If you would like further information about the study please contact:

Dr Corina Naughton,
Senior Lecturer
King's College London
Catherine McAuley School of Nursing and Midwifery
Cork
T12 K8AF
Tel: 021 4902159
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Fig 1.9 Student Consent Form

University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

[Student consent form communication training intervention]

CONSENT FORM FOR PARTICIPANTS IN RESEARCH STUDIES

Please complete this form after you have read the Information Sheet and/or listened to an explanation about the research.

Title of Study: _ The Development and piloting of a Dementia communication Intervention based on the VERA framework for pre-registration Nurses

Clinical Research Ethics Committee

Thank you for considering taking part in this research. The person organising the research must explain the project to you before you agree to take part. If you have any questions arising from the Information Sheet or explanation already given to you, please ask the researcher before you decide whether to join in. You will be given a copy of this Consent Form to keep and refer to at any time.

	Please tick or initial
I confirm that I understand that by ticking/initialling each box I am consenting to this element of the study. I understand that it will be assumed that unticked/initialled boxes mean that I DO NOT consent to that part of the study. I understand that by not giving consent for any one element I may be deemed ineligible for the study.	☐

	Please tick or initial
1. **I confirm that I have read and understood the information sheet dated v1.2 for the above study. I have had the opportunity to consider the information and asked questions which have been answered satisfactorily.**	☐
2. **I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason. Furthermore, I understand that I will be able to withdraw my survey data up to the 30 December 2019. I understand that data recorded as part of focus group interviews cannot be withdrawn.**	☐
3. **I consent to the processing of my personal information for the purposes explained to me. I understand that such information will be handled in accordance with the terms of the Data Protection Act 1998.**	☐
4. **I consent to the VERA training session for the purpose of ensuring the training is delivered effectively and consistently by the trainers (training fidelity)**	☐

5. **I consent to allowing feedback from the sessions to be used to help disseminate the findings of the research for example at conferences.** ☐

6. **I understand that my information may be subject to review by responsible individuals from the College for monitoring and audit purposes.** ☐

7. **I understand that confidentiality and anonymity will be maintained and it will not be possible to identify me in any publications** ☐

8. **I agree that the research team may use my de-identified data for future research. Data would not be identify\able in any report.** ☐

9. **I understand that the information I have submitted will be published as a report** ☐

10. **I consent to my participation in a focus group interview being audio recorded.** ☐

11. **I consent to being observed in clinical practise whilst on my scheduled student placement.** ☐

12. **I understand that I am being observed explicity for the VERA intervention and not on any other aspect of clinical care.** ☐

13. **I consent to my participation in the VERA training being recorded for training purposes.** ☐

14. **I consent to allowing the filmed VERA training session to be achieved (stored for up to five years), I understand I can ask for my face to be obscured in the achieved filmed using video editing.** ☐

15. **I understand that I must not take part if I fall under the exclusion criteria as detailed in the information sheet and explained to me by the researcher.** ☐

16. **I have informed the researcher of any other research in which I am currently involved or have been involved in during the past 12 months.** ☐

17. **I agree to maintain the confidentiality of focus group discussions.** ☐

18. **I understand that confidentiality cannot be guaranteed during the focus group interview.** ☐

_____	_____	_____
Name of Participant	**Date**	**Signature**
_____	_____	_____
Name of Researcher	**Date**	**Signature**

Fig 1.10 Staff interview guide

Staff Interview Guide MUH 20/08/19

1. Thinking about nursing older adults with dementia what are the rewards for you?
2. Thinking about the student nurse coming to your unit, how prepared are they for this type of nursing?
3. What are the rewards or benefits for students nurses working with PWD?
4. What are the challenges?

5. Thinking specifically about communication, what were your experiences of undergraduate nursing students communicating with PWD during their student placement?

a) Are there specific examples that you can think of?
b) What was good about it?
c) What strategies did the student use?
d) What was the patient impact?
e) Was there any feedback given to the student?

6. Can you think of an instance where the interaction was less positive or did not go so well?

a) What did not work or what was poor?
b) What strategies did the student use?
c) What was the impact on the patient?
d) What was the impact on the student?
e) Was there any feedback given to the student?

7. What advice would you give to us around teaching students communication skills to work with PWD?
8. What advice do you give to students?

VIDEO OF VERA

9. What is your reaction to VERA after viewing the video?
10. Do you consciously use the VERA framework within your practice?
11. Do you think that VERA training is appropriate for undergraduates?

If so how or why?

12. Would you be confident after this training to teach undergraduate nursing students about the framework whilst they are on their clinical placement?
13. How do you think VERA training would be best delivered to students?
14. At what stage of the 4 year programme should we deliver this?
15. How well are other MDTs at communicating with dementia patients?

Finally, is there anything else you would like to add?

Fig 1.11 Staff Participation consent form

STAFF CONSENT FORM FOR PARTICIPANTS IN RESEARCH STUDIES

Please complete this form after you have read the Information Sheet and/or listened to an explanation about the research.

Title of Study: A pilot study of a dementia communication intervention based on VERA framework for undergraduate nursing students.

Thank you for considering taking part in this research. The person organising the research must explain the project to you before you agree to take part. If you have any questions arising from the Information Sheet or explanation already given to you, please ask the researcher before you decide whether to join in. You will be given a copy of this Consent Form to keep and refer to at any time.

Please tick or initial

I confirm that I understand that by ticking/initialling each box I am consenting to this element of the study. I understand that it will be assumed that unticked/initialled boxes mean that I DO NOT consent to that part of the study. I understand that by not giving consent for any one element I may be deemed ineligible for the study. ☐

Please tick or initial

1. **I confirm that I have read and understood the information sheet dated (v1.1 01.10.18) for the above study. I have had the opportunity to consider the information and asked questions which have been answered satisfactorily.** ☐
2. **I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason.** ☐
3. **I consent to the processing of my personal information for the purposes explained to me. I understand that such information will be handled in accordance with the terms of the General Data Protection Act 2018.** ☐
4. **I understand that my information may be subject to review by responsible individuals from the College for monitoring and audit purposes.** ☐
5. **I understand that confidentiality and anonymity will be maintained and it will not be possible to identify me in any publications .** ☐
6. **I agree that the research team may use my de-identified data for future research and will be stored for up to five years. Data will not be identifiable in any report.** ☐
7. **I understand that the information I have submitted will be published as a report and in academic publications and conferences** ☐

☐

8. **I consent to my participation in a focus group or 1:1 interview being audio recorded. I understand that data recorded as part of focus group interviews cannot be withdrawn.**

9. **I agree to maintain the confidentiality of focus group discussions and I understand that confidentiality cannot be guaranteed during the focus group interview.** ☐

10. **I understand that I must not take part if I fall under the exclusion criteria as detailed in the information sheet and explained to me by the researcher.** ☐

11. **I have informed the researcher of any other research in which I am currently involved or have been involved in during the past 12 months.** ☐

_____	_____	_____
Name of Participant	**Date**	**Signature**
_____	_____	_____
Name of Researcher	**Date**	**Signature**

Fig 1.12 Facilitator role-play

Facilitator Role Play Irene- Going home (Bad)

My name is Irene, I'm 84 years of age and I was admitted to hospital with pneumonia and dehydration.
I live by myself since Frank died 4 years ago, we met when I was 21, Frank worked for the ESB and I did the book keeping for a local company. We have one daughter Jennie who visits me every day on her way home from work. I am very forgetful these days and get very muddled with things

I'm dressed in my blouse and jacket, with my bags ready to leave the ward. The Doctors come to see you and you excuse yourself past them. You get to the main doors of the ward and a nurse approaches you quickly and blocks the exit:

Page Break

Role Play Irene & Nurse Example of poor interaction

Irene: (said sharply) Excuse me, can you move out of the way! I need to go home!
Nurse: Now, hold on… Where are you going?
Irene: I don't need to tell you my business. I just have to get out of here.
Nurse: Okay, you need to go back to your room come with me…
Irene: I need to go now and make dinner for my husband! He's going to be home soon!
Nurse: Irene, You're can't go home, You are in hospital, you have an infection We are giving you antibiotics, you have to stay till the doctors see you. You'll be fine just come back to your room…
(gently starts to motion Irene away from the exit to the main ward)
Irene: What?! My Frank will be home soon. Stop this nonsense and let me go! *(Tries to barge past the nurse)*
Nurse: Irene, Your family know you are in hospital. You have a chest infection, do you not remember, your daughter brought you in?
You need to come with me now and stop making a racket you are upsetting other patients …
Irene: (visibly upset) How dare you? My Frank will be so mad when he finds out about this. Let me go! *(Goes to strike the nurse)*
Nurse: (takes a step back to avoid the strike) Irene, you're in the hospital… please come with me. Frank is not waiting for his dinner. You live with your daughter. She knows you're here. She wants you to come with me and sit down.
Irene: I have my own home, I live with Frank, Who is Jenny

Don't talk rubbish. I need to go… *(Obviously very angry now, and starts to really try and attack the nurse)*

Nurse: Stop that! I need some help here, please, help *(as the nurse calls for assistance and try and avoid Irene's attacks)*

Facilitator Role Play: Example of good communication Irene & Nurse

Irene: (said sharply) Excuse me, can you move out of the way! I need to go home!

Nurse: Irene, are you okay? Do you need to go home?

Irene: (visibly agitated) I have to leave, I am busy, I have work to do, I just have to get out of here.

Nurse: Irene, I understand you need to go home? What have you to do at home?

Irene: I need to go now and make dinner for my husband! He's going to be home soon!

Nurse: I can see you are very worried about your Frank coming home to an empty plate. I am the same, I like to have food ready when people come to my house? What do you like cooking for Frank

Irene: (relaxing slightly) Frank.is always home by 6 o'clock and he likes when I have his fish and chips ready. We have dinner together and chat about the day, He brings Jenny a small bag of sweats every Friday, he spoils that child.

Nurse: I can see you are missing Frank, you miss chatting with him.
Are you feeling a bit lonely here with us? It is a strange place with a lot of people you don't know
Irene: I miss my Frank, there is nobody to talk to here, I don't know anybody. I want to be at home with Frank and Jenny

Nurse: I am here to help you Irene, do you want some company? I am doing some paper work at the nurses station, would you like to come and sit with me, may be help me with some of the paper work

Irene: Well, I suppose….. Do you need my help?

Nurse: Yes, Irene some help would be great, Your daughter Jennie will be in soon to see you. You can tell her about what we have been doing together

Irene: Okay, I' ll come and help you for a little while, but then I ll have to be off

Fig 1.13 Student-Patient Case Vignettes

Case Vignette 1- Richard- Train station

Your name is Richard. You're a 68 year old gentlemen who was diagnosed with vascular dementia 5 years ago. You live in a nursing home and your family visit several times a week. You are a retired banker who used to travel from Cork to Dublin every month for a meeting at the central bank. Your work meant a great deal to you and you had a very strong work ethic. In your spare time you liked cross word puzzles, and read the newspaper every day. You're in hospital because of chest pains, You are unsettled by the new unfamiliar environment.

Blue responses- if nurse is using VERA

Red response- if nurse has not acknowledged your reality or emotions

You approach a nurse on the ward.

Rischard: Excuse me, how do I get out? I'm running late. Where is the door, I can't find the door *(Body language is restless and anxious)*

Wait for Nurse to response

Richard: Ohhhh please, show me the way out, I'm going to miss my train. I have to leave, where is the door, *(Tapping foot on floor, fidgeting , act anxious, put your hand to your hand in distress)*

Wait for Nurse to response

Richard: I need help, can somebody let me out? It'll take me ages to get to the train station this time of day, You are not listening to me. You're all just looking at me, doing nothing! I'm going to miss my train and be late for my meeting!

Wait for Nurse to response

The meeting, I have to get to the meeting, it is urgent, get me a taxi, I have to leave

Wait for nurse to respond

Richard: [if Nurses uses VERA emotion(I see you are worried]
It is urgent, I have to get to the train, I have to get a ticket,
I can't be late for my train, can you help me

Richard: *[If nurse does not use VERA <u>does not</u> acknowledge your reality or emotion]*
Why is everyone ignoring me? Please can somebody help me? I need to get to the station, You don't understand, I have to get the train now!
(Voice is loud and panicked) You walk to the door trying to pull at the handles.

Richard: Sit down, tapping your leg frantically, cross you legs and holding your lower abdomen [you need to go to the toilet, don't say it directly but get the nurse to work it out]

Richard: Ohhh I don't know If I have time,…. I'm already late, you can never find it when you need it [toilet] (*You begin to get more frustrated and upset)*

Richard: [if nurses uses VERA-asks about the toilet,]

Richard: Yes, thats it… that's what I am looking for, can you help me find it. I can never remember where it is, then I have to get the train, where is my newspaper, can I buy one around here?
After you go to the toilet The nurse brings you a copy of the paper am and begins to ask you some questions about some of the articles.
If nurse does not pick up on toileting – repeat- Oh I can't wait any longer, I have to go now, where is the train, I need help,

Case Vignette - Olive - Lost your diary

Your name is Olive. You're a 70 year old lady who lives alone. You are visited by district nurses twice a day to assist you with taking your diabetic medication. Your daughter Angela visits three times a week to help and organise your appointments. Angela writes your appointments in your diary. You do a lot of activities during the week with the help of friends and volunteers. You're in hospital for an infected diabetic foot ulcer. Your daughter Angela visits you every afternoon. At home Angela makes notes and leave them on the table to remind you of what to do and what is happening every day and she puts your appointments into your diary so your carers know what you are doing every day. The diary is very important to you,
Blue responses- if nurse is using VERA
Red response- if nurse has not acknowledged your reality or emotions

You cannot find your diary and are asking the other patients and staff if they have seen it..

***Olive: (You are a little tearful)* Excuse me, I've lost my diary. It has everything in it! Please nurse I had it hear. I won't be able to get hold of my daughter or my friends. I have appointments to go to. I forget things. I don't know what to do.**

Wait for nurse to respond

Olive [more distressed, start looking for it] My diary, where is it, has anyone seen my diary, have you stolen my diary, have you taken it?

Olive:[Nurse acknowledges validates/*emotion e.g. you've lost your dairy/I see you are upset*] Someone may have taken it. I won't be able to get hold of Angela, I can't contact anyone, this is terrible, I need my diary!

Olive:[Nurse does not use VERA more agitated] This is just awful. I don't feel safe here. The moment you look away someone has taken your things, who stole my diary, give it back. I need it now, your not listening me I have to find my diary.

Olive: I really need to find it. Please help me, is it in that cupboard over there, I have to go to look for it, get out of my way!

Olive:[Nurse Uses VERA- offers to help look], oh thank you, can you help me look for the diary, it is very important, my daughter's number is in there, I need to contact her I have to find out what I need to do today, I may have an appointment

Olive:[Nurse does not use VERA more agitated] It is not here, I really need to find it. Please help me look for it, How will I know what I have to do, where I have to go? I know I have an appointment today, there all in my dairy

Olive: Where is Angela, when is she coming in, I have to contact Angela, why is she not here?

Olive:[[Nurse Uses VERA] I want to speak to my daughter, I need to go home and look for my diary, when is Angela coming in? I don't know what appointments I have, my friend could be waiting for me
Olive:[[Nurse does not use VERA] You are not helping me, I want to see Angela, she helps me, I don't know what I have to do today- it is all written in my diary
If the nurse suggests a cup of tea you do not want it, till you know what the plan is for the day,
[[Nurse Uses VERA activity] If the nurse helps you with the plan that you are happy to go along with want ever is suggested.

Case vignette 3- Chris- Going home

Your name is Chris, you're an 80 year old man and live with your wife Jean, your only daughter lives in Scotland. You met your wife as a teenager and have been married over 50 years. Jean is struggling to care for you at home as you are increasingly forgetful, when you get stressed you can become agitated. You worked as a store manager, Jean also worked in the store with you, until you retired 15 years ago. You enjoy walking, reading and listening to the radio.
You have been admitted following a recent fall, you are meant to use a Zimmer frame but often forget, you are a high risk of a repeat fall, there is currently no 1:1 special available.

You are on the corridor of the ward holding on to the Linen trolley, the nurses comes up to you to bring you back to your chair.

I can't sit down, there is no time I have to tidy the shelves, they are a mess, I will get into trouble, why are the shelves so untidy.
*(Stumble slightly as if to fall)]*No, don't touch me, I have work to do, my store is always neat and tidy, we will soon be opening, Excuse me, please move out of my way.

Wait for response

Where is Jean, she always helps me, she is good at orgainsing thinks, Have you seen jean?
Wait for response

[Nurses uses VERA Validation (I see you have to tidy the shelves)] Yes, this is not good enough we have to get ready for the store to open. If only Jean were here, she would tidy the shelves

[Nurse does not use VERA] Don't' touch me, you are useless, get Jean for me now, No I won't sit down, I won't fall I am not a child

There is so much work to do, we have to open the store in a few minutes, where is everybody why is no body helping?

[Nurse uses VERA acknowledges emotion] can you help me, I need to find Jean, she takes care of this, No I can't sit down till I have done this job.

[Nurse does not use VERA, ignores emotion]. Stop ordering me about, I am in charge here, I tell you what to do, [raise your hand in a fist]. Find Jean NOW!

I can't go until the job is done, I will get into trouble, you don't understand, the shelves have to be tidy

[Nurse Uses VERA, reassurance], can you help me sort this out, I don't know how I got here, when is Jean coming in, I need to talk to Jean

Nurse uses VERA suggests activity (other than sit down)- go with suggestion otherwise repeat

[Nurse does not use VERA]. Move, Where is Jean? What have you done with her? Tell me now. Where is she? . You know nothing about respect. Move aside I'm leaving! I have had enough..

[Nurse does not use VERA, suggests sitting down/cup of tea] Refuse to move, shout out JEAN, I need Help, I need Help…

Fig 1.14 Facilitator observation Guide using QUIS

Positive interactions

Positive Social and Positive Task are differentiated by the following

a. **Positive Social (PS)** is socialisation beyond solely completing the task at hand in a positive manor, the student should portray evidence of enthusiasm/interest/conversation beyond baseline requirement to complete the task.

b. **Positive Task (PT)** is positive socialisation occurring during the period of time necessary to complete the task at hand/outstanding task.

• show warmth, are respectful and enabling
• provide older people with a feeling of safety and significance
• are sensitive and assist individuals to make choices and be in control.
• Acknowledging patient reality/Emotion
• Providing reassurance
• Using distraction activity
• Evidence that patient is smiling, laughing, engaged
• Guided touch/therapeutic touch
• Good level of interaction, back and forth conversation using patients name.

Examples:

- Giving encouragement during care tasks and recognising achievements.
- Giving options and respecting choice.
- Actively seeking engagement and participation – giving the opportunity to ask questions.
- Explaining and tailoring information to the individual, checking their understanding.
- Checking proactively to see if anything is needed (and responding accordingly).
- Smiling, laughing together – the human touch.,
- Affirmative Nodding of head as a sign of approval,
- Showing interest in and knowledge of the older patient as a person.
- Having caring 'conversations'.
- Welcoming visitors into the ward and responding warmly to visitors' questions.
- Recognising and responding to older patient and visitor emotions.

neutral interactions (N/=)

• Neither undermine nor enhance people.
• are either part of carrying out care tasks adequately in order to get the job done.
• involve a request, suggestion or information exchange without any of the features of positive social interactions.
• Communication that is related to task accomplishment or focused on nursing or therapeutic topics. Examples include: Where are

your glasses?, The doctor said not to eat bread.
• Answering without making eye contact with patient, providing minimal response
• Basic information to explain task to patient.
• Minimum reaction from patient or minimum effort to engage with a patients reaction.

Examples:

- Perfunctory completion of care tasks such as checking readings, filling in charts without any verbal or non-verbal contact.
- Use of simple Yes/No answers, task describes in briefest format.
- Offering brief verbal explanations and some encouragement, but only that necessary to complete the care task.
- Speaking to someone in a manner that lacks empathy but is not necessarily rude or disrespectful.
- Telling someone what is going to happen without offering choice or the opportunity to ask questions.
- Not showing interest in what the patient or visitor is saying.
- Giving minimal responses to visitor questions.

Negative Interactions (N)

• c
• undermine feelings of safety and significance, and
• are insensitive and can be disempowering
• Patient showing new signs of distress in response to interaction

Examples:

- Ignoring or talking over an older person during conversations.
- Telling someone to wait for something without any explanation or comfort.
- Telling someone they can't have something without good reason or explanation.
- Telling or instructing an older person to do something without discussion or offering assistance.
- Treating an older person in a child-like or disapproving way
- Using child-like language or 'elder speak'.
- Not allowing an older person to use their abilities or make choices (even if said with 'kindness').
- Seeking choice but then ignoring or over ruling it.
- Being rude, short or unfriendly to older patients or visitors. Being angry with or scolding older patients.
- Actively avoiding conversation or 'ignoring' patient.
- Treating visitors with indifference, indifference to visitor or patient emotions.

Fig 1.15 Student Intervention Feedback Sheet

Evaluation of VERA Training session
Please take 5 minutes to give us some feedback on the training.
How can we make the training better?

What did you like about the training?	
What would you change/do differently to improve the training	

	Very unlikely	Unlikely	Somewhat likely /maybe	Likely	Very likely
How likely are you to try the communication techniques from the training					
How likely are you to use additional on-line dementia communication resources					
How likely are you to recommend the training to other students					

Any Finally Comments

Fig 1.16 Pre-placement demographic data from the student survey

		total	**control**	**%**	**intervention**		**Test of difference**
			N=14	%	N= 39	%	
Gender	**Male**	6	2	(14)	4	(10)	X2=5.53, df 1, p=
	Female	47	12	(85)	35	(89)	
	Other	0	-				
Age	**Mean (SD)**		23	(3.1)	24	(5.9)	T;0.91 DF=51, P=0.37
Prog year	**1**	5	1		4		
	2	1	1		0		
	3	0	0		0		
	4	46	11		35		
Previous experience dementia	**Yes**		12		33		45

Fig 1.17 Cochrane risk of bias assessment tool for randomized control trials

Domain 1: Risk of bias arising from the randomization process

Signalling questions	Comments	Response options
1.1 Was the allocation sequence random?	n/a	Y / PY / PN / N / NI
1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions?		Y / PY / PN / N / NI
1.3 Did baseline differences between intervention groups suggest a problem with the randomization process?	N	Y / PY / PN / N / NI
Risk-of-bias judgement	Some Concerns. Facilitators involved in data collection and analysis. Scheduling of blind observer for student observations not feasible due to ward logistics.	Low / High / Some concerns
Optional: What is the predicted direction of bias arising from the randomization process?	Facilitators aware of intervention site and control site. Facilitators involved in triangulated data collection and analysis.	NA / Favours experimental / Favours comparator / Towards null /Away from null / Unpredictable

Domain 2: Risk of bias due to deviations from the intended interventions (*effect of assignment to intervention*)

Signalling questions	**Comments**	**Response options**
2.1. Were participants aware of their assigned intervention during the trial?	Yes	Y / PY / PN / N / NI
2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?	Yes	Y / PY / PN / N / NI
2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the trial context?	No, intervention fidelity was as scheduled and all contents were delivered to all groups.	NA / Y / PY / PN / N / NI
2.4 If Y/PY to 2.3: Were these deviations likely to have affected the outcome?	n/a	NA / Y / PY / PN / N / NI
2.5. If Y/PY/NI to 2.4: Were these deviations from intended intervention balanced between groups?	n/a	NA / Y / PY / PN / N / NI
2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?	Sample size was not of full power, therefore the statistical analysis undertaken was inappropriate to sample size. Rationale for this was that this was to test the feasibility of a full powered control trial, therefore statistical analysis was undertaken as intended for a full power control trial.	Y / PY / PN / N / NI
2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized?	n/a	NA / Y / PY / PN / N / NI
Risk-of-bias judgement	Some concerns	Low / High / Some concerns
Optional: What is the predicted direction of bias due to deviations from intended interventions?		NA / Favours experimental / Favours comparator / Towards null /Away from null / Unpredictable

Domain 2: Risk of bias due to deviations from the intended interventions (*effect of adhering to intervention*)

Signalling questions	Comments	Response options
2.1. Were participants aware of their assigned intervention during the trial?	Yes	Y / PY / PN / N / NI
2.2. Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?	Yes	Y / PY / PN / N / NI
2.3. [If applicable:] If Y/PY/NI to 2.1 or 2.2: Were important non-protocol interventions balanced across intervention groups?	Control group received training and placement hours as per normal. This was equal amongst the control and intervention group.	NA / Y / PY / PN / N / NI
2.4. [If applicable:] Were there failures in implementing the intervention that could have affected the outcome?	N	NA / Y / PY / PN / N / NI
2.5. [If applicable:] Was there non-adherence to the assigned intervention regimen that could have affected participants' outcomes?	N	NA / Y / PY / PN / N / NI
2.6. If N/PN/NI to 2.3, or Y/PY/NI to 2.4 or 2.5: Was an appropriate analysis used to estimate the effect of adhering to the intervention?	Sample size was not of full power, therefore the statistical analysis undertaken was inappropriate to sample size. Rationale for this was that this was to test the feasibility of a full powered control trial, therefore statistical analysis was undertaken as intended for a full power control trial.	NA / Y / PY / PN / N / NI
Risk-of-bias judgement	Some Concerns	Low / High / Some concerns
Optional: What is the predicted direction of bias due to deviations from intended interventions?		NA / Favours experimental / Favours comparator / Towards null /Away from null / Unpredictable

Domain 3: Missing outcome data

Signalling questions	Comments	Response options
3.1 Were data for this outcome available for all, or nearly all, participants randomized?	Paired data was difficult to capture due to change of placement and academic slots throughout year.	Y / PY / PN / N / NI
3.2 If N/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data?	Yes, Data was looked at independently as pre-post intervention and control groups. Data was also analysed within the paired groups. A mean score calculation was conducted for students who omitted no less that 3 of the 17 items within the sense of dementia competence.	NA / Y / PY / PN / N
3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value?	n/a	NA / Y / PY / PN / N / NI
3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value?		NA / Y / PY / PN / N / NI
Risk-of-bias judgement	Low	Low / High / Some concerns
Optional: What is the predicted direction of bias due to missing outcome data?		NA / Favours experimental / Favours comparator / Towards null /Away from null / Unpredictable

Domain 4: Risk of bias in measurement of the outcome

Signalling questions	Comments	Response options
4.1 Was the method of measuring the outcome inappropriate?	Sample size was not of full power, therefore the statistical analysis undertaken was inappropriate to sample size. Rationale for this was that this was to test the feasibility of a full powered control trial, therefore statistical analysis was undertaken as intended for a full power control trial.	Y / PY / PN / N / NI
4.2 Could measurement or ascertainment of the outcome have differed between intervention groups?	n/a one intervention group (site dictated)	Y / PY / PN / N / NI
4.3 If N/PN/NI to 4.1 and 4.2: Were outcome assessors aware of the intervention received by study participants?	y	NA / Y / PY / PN / N / NI
4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received?	Y y	NA / Y / PY / PN / N / NI
4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received?		NA / Y / PY / PN / N / NI
Risk-of-bias judgement	High	Low / High / Some concerns
Optional: What is the predicted direction of bias in measurement of the outcome?	Favours experiment	NA / Favours experimental / Favours comparator / Towards null /Away from null / Unpredictable

Domain 5: Risk of bias in selection of the reported result

Signalling questions	Comments	Response options
5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis?	Y	Y / PY / PN / N / NI
Is the numerical result being assessed likely to have been selected, on the basis of the results, from...		
5.2. ... multiple eligible outcome measurements (e.g. scales, definitions, time points) within the outcome domain?	Y	Y / PY / PN / N / NI
5.3 ... multiple eligible analyses of the data?	PN	Y / PY / PN / N / NI
Risk-of-bias judgement	Some concerns	Low / High / Some concerns
Optional: What is the predicted direction of bias due to selection of the reported result?		NA / Favours experimental / Favours comparator / Towards null /Away from null / Unpredictable

Overall risk of bias

Risk-of-bias judgement	High	Low / High / Some concerns
Optional: What is the overall predicted direction of bias for this outcome?	Favours Experimental	NA / Favours experimental / Favours comparator / Towards null /Away from null / Unpredictable

Fig 1.18 Student questionnaire

Dementia Communication Survey 2018

We are undertaking a project examining the impact of dementia communication training for pre-registration students. In the survey, we want to to examine what strategies you use when communicating and interacting with a person living with dementia. You will be presented with some case studies examining interactions between a person with dementia and a student nurse.

You will be asked to select the response you would give if you were the student nurse, there are no wrong or right answers. There are also some questions on how confident you feel about communicating with patients with dementia and some questions looking at previous dementia training. Your participation is voluntary and your answers are anonymous, nobody will be able to identify you from your responses.

The information from the survey will be aggregated (grouped) together. The information will be published in a report and conference presentation, but nobody will know you were involved. The responses are confidential, only the researchers will see the answers, the study will not impact on any of your course work or assignment grades. We really value you taking the time to complete the questionnaire, the information will help us improve on the training we provide to student nurses and in turn better support patients with dementia.

Thank you for participating in our survey. Your response is greatly appreciated.

* Required

1. **Please enter your study number (see number in student email)**
2. **Q.1 Mrs O'Connor is a 78 year old lady who was diagnosed with dementia a year ago. She has been admitted to the older person's ward due to some abnormal test results from her GP. You suggest helping Mrs O'Connor to have a wash. Mrs O'Connor says: I don't need any help, I have looked after myself and my family all my life. I don't need help from strangers! How would you respond? ***

   Mark only one oval.

   Mrs O'Connor, it is important to wash regularly, so you do not get an infection or your skin becomes sore.

   Mrs O'Connor, I can see you are independent, I don't like strangers telling me what to do either, what would you like to do?

   Don't worry Mary, you are in hospital, I am one of the student nurses, lets get you into your nightdress.

   Don't upset yourself, I will get you a cup of tea and we can see about a wash later

3. **2. Mrs O'Connor looks at you and says: I have to keep going and take care of myself, I am**

afraid of becoming a burden to my family. My son is busy and he has his own family. *
Mark only one oval.

We can talk about it later when you are not so upset. I will leave you to settle in.

I think a social worker may be able to help, I can make a referral for you?

Don't worry about that now, let us give you a shower, so you are ready for when your son comes to visit.

You are worried about becoming a burden on your family? How do your family help you at the moment?

4. **3. Mrs O' Connor agrees to have a shower, but seems a bit subdued and does not say much. How would you respond?**

Mark only one oval.

Mrs O' Connor, you will be fine, we will be quick and have you back in your chair in 20 minutes.

Mrs O' Connor, can you help me pick out one of your nightdresses and your toiletries?

But Mary, it is OK, there's no need to be embarrassed. Everyone needs help sometimes.

We all need help when we get older, it is our job, to take care of you, you don't need to do anything.

5. **4. During the shower, Mrs O'Connor grabs your hand and shouts stop, stop! How do you respond?**

Mark only one oval.

Mrs O'Connor, it is OK, don't worry we are nearly finished

Mrs O'Connor, let me give you the wash cloth, so you can finish the wash yourself, there is no rush

Mrs O'Connor, please let go of my hand, I am trying to help you.
Mary, don't grab my hand, you want to look your best for when your son comes don't you?

5. Caroline Evans is an 86 year old lady diagnosed with dementia 5 years ago. Her main carer is husband Reg. It's 1 am in the morning and you hear Caroline shouting at another lady in her bay. When you get to Caroline she is shaking and repeatedly saying "it's not fair on the children".

6. **5. How would you respond?** *Mark only one oval.*

Mrs evans, it's 1 am in the morning, please stop shouting and go back to sleep.

You're upsetting the other patients, please calm down and we can talk about what's worrying you in the morning.

Caroline, I spoke to Reg, he said the children are fine and for you to go back to sleep. Caroline, I can see you're upset. What's worrying you about the children

7. **6. Caroline walks back to her bedside and sits in her chair. She is restless and is playing with her cannula which was inserted for IV fluid administration. How would you respond?**

Mark only one oval.

Let me help you back to bed, you may fall, I will get you a cup of tea to help you sleep

Caroline you're in hospital, you're safe, there is nothing to worry about.

You are safe Caroline. I am here to help you. What can I do?

Caroline, the children are fine, Reg will come in the morning and bring you news of the Children.

8. **8. Caroline wakes up and again tries to get out of bed, one of the other patients in the bay has rang to bell to alert you.**

Mark only one oval.

Caroline, you are keeping the other patients awake, you need to get some sleep

Mrs Evans, why are you getting out of bed, it is only 4 am, it is too early to get up?

Caroline, I can see you are restless, do you need to go to the toilet?

Mrs Evan's you have an pad on, you don't need to go to the bathroom, I will help you back to bed.

Ali Abhad is a 67 year old gentleman with diabetes and vascular dementia. He usually manages his diabetes independently. His brother found him unresponsive in his flat with a very low blood sugar.At 6 pm you come to check Ali's blood sugar and administer his insulin. Ali appears frustrated and clutches his hands. He says "you're trying to kill me, let me out of this prison".

9. **9. How would you respond?** * *Mark only one oval.*

You're not in prison, you're in hospital. It's very important I check your blood sugar, is that OK?

I know you're frightened but I just need to check your blood sugar quickly.
I can see that you're scared Ali. Can you tell me what has upset you?
You're in hospital Ali, I'm going to give you a minute to calm down and then I'll come back.

10. **10. Ali starts to pack up his belongings and says: You can't keep me here against my will, where is my brother. Ali shouts his brother's name "Hasain, Hasain"...How would you respond?**

    Mark only one oval.

    Ali your brother knows you're here. If he finds out you're upset, he'll be upset as well. Let's leave this for a moment. How about a cup of tea to help you calm down?
    I understand you do not like being here, what can I do to help you?
    It's OK, please don't worry. Your brother will come in soon to visit.

11. **11. Ali begins to cry and say "I cant remember how I got here! Where is my brother Hassain? I want to talk to him now!"**

    Mark only one oval.

    Your brother brought you here because your blood sugar has been low but it is more stable now, don't worry

    We need to help you control your blood sugar levels. Tell me how you manage them at home?

    Don't cry Ali, we are taking care of you, you are going to be fine.
    You are upset Ali, your brother knows you are here. Would you like to ring him?

12. **12. Ali says nothing but tries to take the insulin injection from you.How would you respond?**

Mark only one oval.

Ali, do you want to give yourself the insulin, like you do at home?

Ali, I have to give you your insulin, the doctor has prescribed it.

Ali, no need to be afraid, It will be over in a second, it is just a small injection.

Ali please stop, I have to give you the insulin now, before your supper, or you will get sick again

Mary Stokes is an 88 year old lady with alzheimer's disease. She has been admitted to the orthopedic ward after a fall which resulted in a fracturing wrist. Mary lives next door to her son Tom and his family. You are her student nurse for the day shift, as you serve Mrs Stokes her breakfast she asks you where Tom is and says she can't believe he'd leave her alone like this.

13. **13. How would you respond?** *Mark only one oval.*

    I don't know where Tom is, he will be along later, it is not visiting time yet.

Don't worry, Tom knows you are in hospital, have your breakfast

Finish your breakfast and I'll help you look for him afterwords

Oh Mary, I can see you are worried about Tom, is Tom your eldest Son, how does he normally help you

14. **14. Mrs Stokes family arrive on the ward and are distressed that their mother cannot remember that their father Paddy has died. They have brought in a family photo album for their mother. Her daughter says "Dad died in 2006, do you remember?" Mary begins to cry, and does not recognise her daughter. Mary asks: who are you? I don't know you, where is Paddy? How would you respond?**

Mark only one oval.

Mary, this is your daughter,Kate she has come to see you.

Paddy wouldn't want you to be upset. Let's have a look through these pictures together and talk about the times you had

Paddy will be here later, don't worry. Let's enjoy time with your daughters now.

Mary, I can see you are upset and miss Paddy, Kate, your daughter has some photos, are there any photos of you with Paddy here?

15. **15. Mary is not wearing her sling and is trying to get up shouting for Tom. She is standing at the nurses station and wants you to ring Tom to come and bring her home. How would you respond?**

Mark only one oval.

Sorry Mary, that phone is for staff use only. Let's just wait for your family to come in.

Mary, lets get you back to your bed, You need to sit down and put your sling back on.

I don't have a number for Tom, I will look for it later and give him a ring? Lets get your sling back on.

Mary are you missing your family, are you you feeling lonely? do you want to come and sit with me for a while?

16. **16. Mary is settled when are family are there, but after her family leave, she becomes more disorientated and calls out for Paddy (her late husband). You can't really make sense of what Mary is saying. She tries to climb out of bed over the cot sides. She is becoming more agitated and distressed.How would you respond?**

Mark only one oval.

Mary, you sound upset, you are safe, I am here to help you? do you have pain in your arm [wait for response] do you need to go to the toilet [wait for response]

Mary I can't understand what you are saying, Your family will be back tomorrow to visit you.

No Mary, please don't get out of bed, you are in hospital, you will fall and hurt yourself again. Paddy can't come to visit at the moment, I will get you a cup of tea if you stay in bed https://docs.google.com/forms/d/1S0NKl9799JpIeTxNwungfvwm-HxRQFPCE6E9unGo7Tg/edit	

7. Please select the answer that best describes your feelings. There are no right or wrong answers.

Check all that apply

not at all
a little bit
quite a lot
very much

1.Understand the feelings of a person with dementia?

2. Understand the way a person with dementia interacts with the people and things around them?

3. Engage a person with dementia in a conversation?

4. Balance the needs of the person with dementia with their relative's wishes and the service limitations?

5. Use information about their past (such as what they used to do and their interests), when talking to a person with dementia?

6. Change your work to match the changing needs of a person with dementia

7. Keep up a positive attitude towards the people you care for?

8. Keep up a positive attitude towards the relatives of a person with dementia

9. Keep yourself motivated during a working day

10. Play an active role in the nursing staff team

11. Protect the dignity of a person with dementia in your work?

12. Deal with personal care, such as incontinence in a person with dementia

13. Deal with behaviour that challenges in a person with dementia?

14. Decide what to do about risk (such as harm to self or others) in a person with dementia

15. Offer stimulation (for the mind, the senses and the body) to a person with dementia in your daily work?

16. Offer choice to a person with dementia in everyday care (such as what to wear, or what to do)?
17. Engage a person with dementia in creative activities during your normal working day?

19. **20. Have you had previous experience of caring for a person with dementia? If YES please comment.**

20. **21. What kind of dementia training /education have you had?**

21. **22. What hospital are you in?**

22. **23. How many weeks will you be on clinical placement?**

23. **24. What age are you?**

24. **25. What is your gender?** *Mark only one oval.*

Male
Female
non-gender specific

25. **26. Finally, thank you for all your help with this survey. Is there any other comment you would like to make?**

Fig 1.19 Ethical approval

COISTE EITICE UM THAIGHDE CLINICIÚIL **Clinical Research Ethics Committee of the Cork Teaching Hospitals**

Tel: +353-21-4901901 Email: crec@ucc.ie
University College Cork
Lancaster Hall 6 Little Hanover Street
Cork Ireland

CREC Review Reference Number: ECM 4 (aa) 04/*12*/18

Date: 3rd December 2018

Professor Corina Naughton School of Nursing & Midwifery College of Medicine and Health Brookfield Health Sciences Complex University College Cork College Road Cork

Study Title: A pilot study of a dementia communication intervention based on VERA framework for undergraduate nursing students.

Approval is granted to carry out the above study at:

Cork University Hospital and Mercy University Hospital.

The following documents have been approved:

***V*ersion**
Document Cover Letter
Approved Yes
Date
15" October 2018 (received 16" October 2018) 29th September 2018
Application Form
CV for Chief Investigator | Evidence of Insurance
Study Protocol Data Collection Sheet Patient Information Leaflet Patient Consent Form Staff Information Sheet
Yes Yes Yes **Yes** Yes Yes **Yes**
1.1 1.1
Yes
1.1
154 October 2018 15 October 2018 1" October 2018 Amend section "what will happen to me if I take part" no information about focus group only interview. 15 October 2018 15 October 2018 14 October 2018 18 October 2018 **19 October 2018**
1.1 1.1 1.1

Staff Consent Form Student Information Sheet Student Consent Form Family Information Sheet Family Consent Form Study Questionnaires Interview Guide
Yes Yes Yes Yes **Yes Yes**
1.1

Yes

Submit revised version of the amended document for our files.

This study must be carried out in accordance with GDPR 2018.

We note that the co-investigator(s) involved in this project will be:

Name Ali Sisk

Occupation Msc Student

Full approval is granted to carry out the above study.

The date of this letter is the date of authorization of the study.

Please keep a copy of this signed approval letter in your study master file for audit purposes.

You should note that ethical approval will lapse if you do not adhere to the following conditions:

1. Submission of an Annual Progress Report/Annual Renewal Survey (due annually from the date of this approval letter)

Report unexpected adverse events, serious adverse events or any event that may affect ethical acceptability of the study

3.
Submit any change to study documentation (minor or major) to CREC for review and approval. Amendments must be submitted on an amendment application form and revised study documents must clearly highlight the changes and contain a new version number and date. Amendments cannot be implemented without written approval from CREC.

4. Notify CREC of discontinuation of the study

5. Submit an End of Trial Declaration Form and Final Study Report/Study Synopsis when the study has been completed.

Yours sincerely

Shreace Conor
Professor Michael G Molloy Chairman Clinical Research Ethics Committee of the Cork Teaching Hospitals

*The Clinical Research Ethics Committee of the Cork Teaching Hospitals, UCC, is a recognised Ethics Committee under Regulation 7 of the European Communities (Clinical Trials on Medicinal Products for Human Use) Regulations 2004, and is authorised by the Department of Health and Chi**ldren to carry out** the ethical review of clinical trials of investigational medicinal products. **The Committee is fully compliant** with the Regulations as they relate to Ethics Comm**ittees and the conditions and principles o**f **Good** Clinical Practice*